
Russell City Energy Center

(01-AFC-7C)

Amendment No. 4



Submitted by
Russell City Energy Company, LLC
November 2012

Contents

Contents.....	iii
Executive Summary.....	v
1.0 Introduction.....	1
1.1 Overview	1
1.2 Ownership of Russell City Energy Center, LLC.....	2
1.3 Summary of Environmental Impacts	3
2.0 Description of Project Changes	5
2.1 Changes to Air Quality Conditions of Certification	5
2.2 Changes to the Time Allowed for Installation of Onsite Landscaping (VIS-2)	6
2.3 Deletion of Condition VIS-9.....	6
2.4 Changes to the Conditions for Offsite Visual Enhancement (VIS-10)	7
2.5 Necessity of Proposed Changes	8
3.0 Environmental Analysis of Proposed Project Changes and Consistency with LORS ..	11
3.1 Air Quality Conditions of Certification	11
3.1.1 Air Quality.....	11
3.1.2 Biological Resources.....	12
3.1.3 Cultural Resources	12
3.1.4 Geology and Paleontology	12
3.1.5 Hazardous Materials Management.....	12
3.1.6 Land Use	12
3.1.7 Noise and Vibration	12
3.1.8 Public Health.....	12
3.1.9 Socioeconomics	13
3.1.10 Soil and Water Resources	13
3.1.11 Traffic and Transportation	13
3.1.12 Visual Resources	13
3.1.13 Waste Management.....	13
3.1.14 Worker Safety and Fire Protection.....	13
3.2 Changes to Onsite Landscaping Conditions	13
3.2.1 Air Quality.....	13
3.2.2 Biological Resources.....	13
3.2.3 Cultural Resources	14
3.2.4 Geology and Paleontology	14
3.2.5 Hazardous Materials Management.....	14
3.2.6 Land Use	14
3.2.7 Noise and Vibration	14
3.2.8 Public Health.....	14
3.2.9 Socioeconomics	14
3.2.10 Soil and Water Resources	14
3.2.11 Traffic and Transportation	15
3.2.12 Visual Resources	15

3.2.13 Waste Management..... 15

3.2.14 Worker Safety and Fire Protection..... 15

3.3 Changes to Condition VIS-9 and VIS-10..... 15

3.4 Consistency of Amendment with the Certification and LORS..... 16

4.0 Potential Effects on the Public 17

5.0 List of Property Owners and Potential Effects on Property Owners..... 18

5.1 List of Property Owners..... 18

5.2 Potential Effects on Property Owners 18

6.0 Proposed Changes to Conditions of Certification 19

6.1 Amendments to Air Quality Conditions of Certification..... 19

6.2 Amendments to Visual Resource Conditions of Certification..... 28

Executive Summary

Russell City Energy Company, LLC, as project owner, petitions the California Energy Commission (CEC or Commission) to amend the certification for the Russell City Energy Center (RCEC) (01-AFC-7, issued September 11, 2002 and amended October 3, 2007), hereinafter “Decision.” This Amendment includes the following components:

- Various non-substantive administrative changes to the Air Quality Conditions of Certification to clarify certain terms concerning monitoring and test methods and timing for initial source testing and to conform to the conditions in the Authority to Construct (ATC) air permit issued by the Bay Area Air Quality Management District (BAAQMD);
- Modification of Condition of Certification VIS-2 (onsite landscaping) to allow planting in the first optimal planting season following commercial operation;
- Deletion of Condition of Certification VIS-9 (trailside improvements) because the condition is not feasible and is no longer necessary; and
- Modification of Condition of Certification VIS-10 to provide alternative offsite visual enhancement measures.

Section 1.0 provides an overview of the Amendment and a review of the ownership of the project. Section 2.0 provides a complete description of the proposed modifications and the necessity for the proposed changes. Section 3.0 assesses the potential environmental effects of the proposed changes, the project’s continued compliance with all laws, ordinances, regulations and standards, and the consistency of the changes with the Commission Decision certifying the facility. This assessment indicates that adoption of the Amendment will not result in any significant, unmitigated adverse environmental impacts. The project will continue to comply with all applicable laws, ordinances, regulations and standards. The findings and conclusions contained in the Commission Decision of October 3, 2007 amending certification of the RCEC are still applicable to the project.

The proposed changes to the relevant Conditions of Certification are included in Section 6.0 of the Amendment.

1.0 Introduction

1.1 Overview

The Russell City Energy Center project (“RCEC”) is an approximately 600 megawatt natural gas-fired, combined cycle electric generating facility located in the City of Hayward in Alameda County. This project was certified by the California Energy Commission (“CEC” or “Commission”) in September 2002,¹ and received an amended approval in October 2007,² hereinafter “Decision.” A petition to extend commencement of construction deadline by one year, from September 10, 2007 to September 10, 2008 was approved on August 29, 2007, and a petition to extend commencement of construction deadline by two years, from September 10, 2008 to September 10, 2010 was approved on July 30, 2008. On August 11, 2010, the Commission approved Amendment No. 2,³ which, among other things, made modifications to the Air Quality Conditions of Certification to conform with the project’s federal Prevention of Significant Deterioration (PSD) permit and enable the renewal of the Authority to Construct issued by the Bay Area Air Quality Management District (BAAQMD).⁴ Construction of RCEC began September 2010.

By this amendment Russell City Energy Company, LLC, petitions the Commission to amend the certification for the project as follows:

- Modify certain Air Quality Conditions of Certification to make certain non-substantive clarifications and administrative amendments to provisions governing monitoring and initial source testing and to conform with the corresponding conditions in the Authority to Construct air permit issued by BAAQMD;
- Modification of Condition of Certification VIS-2 for onsite landscaping to allow planting in the first optimal planting season following commercial operation;
- Deletion of Condition of Certification VIS-9 (trailside improvements) because the condition is not feasible and is no longer necessary; and
- Modification of Condition of Certification VIS-10 to provide alternative offsite visual enhancement measures.

¹ California Energy Commission. 2002. Commission Decision, Russell City Energy Center, (01-AFC-7), Alameda County. California Energy Commission, Sacramento, California. September 11, 2002.

² California Energy Commission. 2007. Commission Decision, Russell City Energy Center, Petition for Amendment to Application for Certification (01-AFC-7C), Alameda County. California Energy Commission, Sacramento, California. October 3, 2007.

³ California Energy Commission. 2010. Order Amending the Energy Commission Decision, Russell City Energy Center, Petition for Amendment No. 2 (01-AFC-07C), Alameda County. California Energy Commission, Sacramento, California. August 11, 2010.

⁴ A third amendment to the Commission’s decision was also approved on July 9, 2012. The order approving Amendment No. 3 allowed the addition of additional areas for construction laydown and parking. Except for certain Air Quality Conditions of Certifications, Amendment No. 3 and this Amendment do not address similar issues or affect any of the same Conditions for Certification.

This Amendment contains all of the information that is required pursuant to the Siting Regulations (California Code of Regulations [CCR] Title 20, Section 1769, Post Certification Amendments and Changes). The information necessary to fulfill the requirements of Section 1769 is contained in Sections 1.0 through 6.0 as summarized in Table 1 below.

TABLE 1
Informational Requirements for Post-Certification Amendments and Changes

Section 1769 Requirement	Section of Petition Fulfilling Requirement
(A) A complete description of the proposed modifications, including new language for any conditions that will be affected	Section 2.0—Proposed modifications Sections 6.0—Proposed changes to conditions of certification
(B) A discussion of the necessity for the proposed modifications	Section 2.0
(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time	Section 2.3
(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted	Sections 3.3
(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts	Section 3.0
(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards;	Section 3.3
(G) A discussion of how the modification affects the public	Section 4.0
(H) A list of property owners potentially affected by the modification	Section 5.1
(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.	Section 5.2

1.2 Ownership of Russell City Energy Company, LLC

Russell City Energy Company, LLC, is jointly owned by Calpine Russell City, LLC (a wholly owned indirect subsidiary of Calpine Corporation) (65 percent) and Aircraft Services Corporation (a wholly owned indirect subsidiary of General Electric Capital Corporation) (35 percent).

1.3 Summary of Environmental Impacts

The Siting Regulations require that an analysis be conducted to address the potential impacts the proposed project change may have on the environment and proposed measures to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 [a][1][E]). The regulations also require a discussion of the impact of the proposed change on the facility's ability to comply with applicable laws, ordinances, regulations and standards ("LORS") (Title 20, CCR Section 1769 [1][a][F]).

Section 3.0 of this Amendment includes a discussion of the potential environmental impacts associated with the modifications to the Air Quality Conditions of Certification and Visual Resources Condition of Certification for onsite landscaping (VIS-2), as well as a discussion of the consistency of the modification with LORS. Section 3.0 concludes that there would be no significant environmental impacts associated with implementing the actions specified in this Amendment and that the project as modified would comply with all applicable LORS.

- Clarifications and amendments to the Air Quality Conditions of Certification will have no significant adverse impact on the environment because these changes are all minor and non-substantive in nature and do not modify any currently licensed limits on emissions.
- Changes to Condition of Certification VIS-2 for onsite landscaping will not impact the environment. The revision to the condition for onsite landscaping changes the timeframe for onsite planting to a more optimal season when climatic conditions will favor new growth and when onsite construction activities will not harm newly planted trees and vegetation. The onsite landscaping installed during the optimal planting season will maximize the survival and success of the planted trees and vegetation.
- Deletion of Condition of Certification VIS-9 will not impact the environment. The trailside improvements described in this condition had been proposed in 2002 because the project at the location certified in 2002 would have blocked the view of Mt. Diablo from the Hayward Shoreline Interpretative Center. However, subsequent to the 2002 Decision, the project owner relocated the project to a location which no longer blocked views of Mt. Diablo from the Center. Therefore, these mitigation measures are no longer necessary.
- Changes to the Visual Resources Condition of Certification for offsite visual enhancement measures will not impact the environment. The proposed revision to VIS-10 would require the project owner to convey approximately 26 acres of shoreline land to the East Bay Regional Park District (EBRPD) to be integrated into the EBRPD system of shoreline parks and to be maintained permanently as open space and habitat.
- The dedication of land does not involve any physical change to the environment, therefore there is no possibility of any significant adverse environmental impact. In addition, there is a specific categorical exemption under CEQA for the transfer of ownership of interests in land in order to preserve open space and habitat. (14 CCR 15325; Public Resources Code

Sections 21083, 21084.) Therefore, it can be seen with certainty that this revision to VIS-10 will have no significant adverse effect on the environment.

2.0 Description of Project Changes

This section includes a complete description of the proposed project changes consistent with the Siting Regulations (Title 20, CCR, Section 1769 [a][1][A]).

2.1 Changes to Air Quality Conditions of Certification

This Amendment requests various changes to the Air Quality Conditions of Certification. These changes address certain monitoring and testing requirements and reflect certain non-substantive clarifications and amendments of those requirements.

The ATC permit for the project was originally issued on November 1, 2007. Due to delays associated with issuance of the PSD permit for the project, construction did not commence during the initial two-year period for which the ATC was effective. Accordingly, the RCEC project owner applied for a renewal of its ATC and concurrently sought amendment of the Air Quality Conditions of Certification to reflect the more current “Best available Control Technology” limits imposed by the PSD permit. The Commission processed the amendment request and, on August 11, 2010, approved Amendment No. 2 to the project’s certification. BAAQMD then renewed the ATC on November 10, 2010 (expired October 31, 2011), incorporating the Air Quality Condition of Amendment No. 2.⁵ RCEC subsequently commenced construction and the ATC was renewed again on October 26, 2011.⁶

This Amendment requests certain non-substantive changes to the Air Quality Conditions of Certification to clarify certain monitoring and testing requirements, but makes no change to any of the applicable emissions limits. The RCEC project owner is concurrently requesting that the BAAQMD modify the currently effective ATC permit conditions so they would conform to the amended Conditions of Certification. Additional changes are requested to extend the timing for conducting initial source testing, make certain corrections to permit language and otherwise assure consistency between the Air Quality Conditions of Certification and conditions of the ATC. The modifications being proposed by this Amendment do not affect the quantities of emissions permitted.

For example, the project owner is seeking an increase in the deadline for conducting source testing from 60 or 90 days (as the case may be) to 120 days from startup, which is considered to be first fire, because the timing sequence for commissioning activities is such that the project will not be finished with the work necessary to perform source testing within 90 days of first fire. Therefore, extending the source testing deadline to 120 days from startup

⁵ For a description of the process followed by BAAQMD in renewing the ATC as a ministerial permit that incorporates the Air Quality Conditions of Certification imposed by the Commission’s certification, see *In the Matter of the Appeal of CALifornians for Renewable Energy, Inc., from the renewal of an Authority to Construct for the Russell City Energy Center*, Order Denying Fee Waiver Request, Denying Application for Leave to Intervene, Denying Motion to Strike Document and /or Continue Hearing; and Dismissing Appeal for Lack of Jurisdiction, BAAQMD Hearing Board, Mar. 3, 2011; available at: <http://www.baaqmd.gov/~media/Files/Board%20of%20Directors/Hearing%20Board/3607%20Final%20Order.ashx?la=en>.

⁶ The BAAQMD website provides the latest ATC permits for RCEC, and is available at <http://www.baaqmd.gov/Divisions/Engineering/Public-Notices-on-Permits/2011/102611-15487/Russell-City-Energy-Center.aspx>

allows the project to safely complete the necessary commissioning activities and results in no additional emissions or environmental impacts.

Changes to the Air Quality Conditions of Certification are provided in Section 6.1.

2.2 Changes to the Time Allowed for Installation of Onsite Landscaping (VIS-2)

VIS-2 provides the conditions for onsite landscaping. Onsite landscaping must be completed by the start of commercial operation, and the planting must occur during the optimal planting season. Under the current schedule for commercial operation, this condition would require trees to be planted near major project structures, such as the cooling towers, in the fall of 2012, even though such structures may still be under construction during this period. This situation is problematic for two reasons. First, installation of the type of trees necessary to screen the project from view to the greatest extent possible will impede construction efforts of nearby major equipment and structures, potentially affecting the safety of construction workers. Second, because of the ongoing construction nearby the onsite landscaping, trees installed prior to commercial operation are likely to be disturbed or injured from construction activities and therefore require replacement.

Accordingly, this Amendment would modify VIS-2 to allow onsite landscaping to be completed by the first optimal season following commercial operation. The Amendment also clarifies that the optimal season for planting occurs in the Spring (March through June) and Fall (September through November).

Modifications to VIS-2 are provided in Section 6.2.

2.3 Deletion of Condition VIS-9

When the project was originally licensed in 2002, it was then sited at a location where “it would substantially block the view of Mt. Diablo from the Hayward Shoreline Interpretive Center.” (RCEC FSA, 2002, p. 4.11-18) To mitigate for blocking the view of Mt. Diablo from the Interpretive Center, the project owner agreed to “install benches, an information kiosk, information panels, and free-of-charge viewscopes at two nearby locations on the Shoreline trail where views toward Mt. Diablo would not be affected by the project.” (*Id.* at 4.11-19).

Subsequent to the 2002 Decision, the project owner relocated the project. This relocation was approved by the Commission’s Decision on Amendment No. 2 in 2007. At this new location, the project no longer blocked views of Mt. Diablo from the observation deck of the Interpretive Center. (FSA, 2007, 4.12-6)

Despite the fact that mitigation for view blockage was no longer necessary and no longer legally required to mitigate for view blockage, the project owner agreed to continue to provide these trailside improvements, assuming the cooperation of the Hayward Area Recreation and Parks District (HARD). Unfortunately, HARD has declined to enter into an agreement for the project owner to provide these improvements. In a letter dated November 3, 2010, HARD presented to the project owner a proposal and budget for the

installation of these amenities. Throughout the first and second quarters of 2011, The project owner worked diligently with HARD staff to negotiate an agreement pursuant to which the project owner and HARD would work together, in accordance with the budget specified therein, to design and install such trailside amenities. Both the budget and the trailside amenities contemplated by the agreement were consistent with HARD's letter of November 3, 2010.

HARD staff presented the agreement to its Board for approval at a regular meeting on June 13, 2011. However, the Board declined to bring the agreement to a vote for approval. Following more than a year of subsequent discussions and exchange of information between the project owner and HARD, the agreement was again brought before the Board for approval at its regular meeting of August 27, 2012. Again, the Board declined to adopt the agreement.

Without HARD's consent, Condition VIS-9 is not feasible. Because this Condition is not feasible and because the Condition is not necessary to mitigate the impacts that were contemplated in the 2002 Decision when the Project was located at a different location, Condition VIS-9 should be deleted.

2.4 Changes to the Conditions for Offsite Visual Enhancement (VIS-10)

Condition VIS-10 was first adopted by the Commission in the 2002 decision that approved the project. Although, the project site was subsequently relocated and thereby reduced the potential visual impacts, VIS-10 was carried forward to the 2007 Commission Decision that approved the new project location.

Following the 2007 decision, the project owner initiated the process of designing the requirement to plant trees along the west side of the warehouses and industrial complexes that face the shoreline south of the project site. Part of the process of planning for the planting of trees involved contacting individual property owners to obtain permission to plant the trees and to obtain the cooperation of the landowners to maintain the trees. During this process, the project owner discovered that it would be infeasible to plant trees on many parcels for the following reasons:

- Several landowners refused to allow trees to be planted on their property;
- One landowner would only allow the planting of juniper trees, a species not compatible with adjacent marshlands;
- One landowner would allow a limited number of trees to be planted, as long they did not block views from his property; and
- Several parcels had pipelines running underneath the areas where trees were to be planted, raising concerns that the trees' roots could damage the pipes.

As a result of the physical limitations of these sites, the underground pipes and the objections of property owners, the project owner has determined that it is not feasible to plant trees along the sides of these warehouses and industrial complexes. Therefore, the

project owner proposes to amend VIS-10 to provide an alternative form of offsite visual enhancement. We propose to modify VIS-10 to require that the project owner convey to the EBRPD 26 acres of land to the south of the project site. This land is along the shoreline, adjacent to other EBRPD land and very near the warehouses where the trees will be planted. By this conveyance, the project owner will allow EBRPD to add a very valuable area of open space and marshland to the EBRPD system, for the permanent and long-term enjoyment by the public. As part of the revision to VIS-10, the property owner also proposes to contribute to an endowment for the long-term maintenance of this land. The legal Description of the land is set forth in Attachment "A" to the Amendment.

It should be noted that the original project site licensed in 2002 would have impacted certain seasonal wetlands. Therefore, the 2002 Commission Decision approving the project required the project owner to dedicate this land to EBRPD as habitat mitigation. (2002 RCEC Decision, Condition BIO-10.) However, when the site was relocated, the project no longer impacted seasonal wetlands and habitat mitigation was no longer required. BIO-10 was deleted from the 2007 Commission Decision approving the project at its new location.

Although the Commission's Conditions of Certification no longer require the project owner to convey the 26 acres of land to the EBRPD, the project owner intends to voluntarily convey this land, along with an appropriate endowment. The parcel will contribute to preserving and enhancing the coastal salt-marsh ecosystem in the proposed project area, benefit the long-term management goals of EBRPD, preserve open space along the shoreline and protect the viewshed from future development. The conveyance of this land and the endowment will be a substantially greater contribution to the visual enhancement of the offsite project vicinity than the mere planting of trees next to the warehouses.

2.5 Necessity of Proposed Changes

The Siting Regulations require a discussion of the necessity for the proposed revision to the RCEC project and whether the modification is based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 [a][1][B], and [C]).

Air Quality

Changes to the Air Quality Conditions of Certification are necessary to make minor non-substantive clarifications in certain monitoring and testing requirements and assure consistency between the project's CEC license and the conditions of the ATC permit. Certain administrative changes, e.g., clarification that certain emissions limits are to be applied as an hourly average, are needed to specify how monitoring and testing for compliance with the applicable emissions limits will be conducted. The necessity for these proposed changes could not be anticipated at the time when Amendment No. 2 was approved by the Commission because the need for clarification did not arise until the data acquisition system (DAS) that will be used to monitor compliance with applicable requirements was being designed and its programming logic established by the construction contractor and equipment vendors. Other changes, such as the need for additional time to complete source testing, were not known until the sequencing of the commissioning process was established by the construction contractor.

RCEC did not know at the time of approval of Amendment No. 2 that certain administrative amendments to the Air Quality Conditions of Certification would be needed to clarify certain monitoring and testing requirements and assure consistency with the corresponding conditions of the ATC.

Visual Resources

Changes to the Visual Resources Condition of Certification for onsite landscaping are necessary to remove potential conflicts between construction activities and the planting of vegetation, allowing for the safety of construction workers and the survival of planted vegetation.

Deletion of Condition VIS-9 is necessary to remove a condition that is no longer necessary or feasible.

Modification of VIS-10 is necessary because tree planting along the warehouses is not feasible.

Regarding VIS-9, the project owner did not know at the time of approval of Amendment 2 that HARD would decline to enter into an agreement that would allow construction of the trailside improvements paid by the project owner.

Finally, regarding VIS-10 the project owner did not know at the time of Approval of Amendment 2 that it would not be feasible to plant trees along the side of warehouses and industrial facilities offsite.

3.0 Environmental Analysis of Proposed Project Changes and Consistency with LORS

The proposed project changes are evaluated below according to the type of change. The following sections describe the impacts of each of the changes on the Air Quality Conditions of Certification and the implementation of onsite landscaping.

Within each of the following sections, an environmental analysis for each of the 14 different discipline areas addresses whether there are any significant potential changes to environmental impacts of the project that are a result of the Amendment. Each section includes an environmental analysis. The environmental disciplines are addressed, as follows:

- 3.1 Air Quality
- 3.2 Biological Resources
- 3.3 Cultural Resources
- 3.4 Geology and Paleontology
- 3.5 Hazardous Materials Management
- 3.6 Land Use
- 3.7 Noise and Vibration
- 3.8 Public Health
- 3.9 Socioeconomics
- 3.10 Soil and Water Resources
- 3.11 Traffic and Transportation
- 3.12 Visual Resources
- 3.13 Waste Management
- 3.14 Worker Safety and Fire Protection

At the end of this section, the Amendment addresses the consistency of the proposed changes to the Air Quality and Visual Resources Conditions of Certification with LORS.

3.1 Air Quality Conditions of Certification

3.1.1 Air Quality

None of the changes to the Air Quality Conditions of Certification will have a significant effect on air quality. The changes proposed to these conditions do not affect the levels of emission permitted for the project or significantly affect the project operator's duty to test RCEC emissions. Rather, the changes are all administrative in nature and reflect needed clarifications to specify how monitoring and testing will be conducted to demonstrate compliance with applicable emissions limits.

Additionally, the project owner is requesting that the Commission and BAAQMD change the time allowed for the project to complete source testing from 60 or 90 days (depending on

the condition) from startup to 120 days from startup. This change will not significantly affect air emissions as it does not result in an increase or decrease in the emissions permitted for the project. The requested change only provides the project sufficient time to finish activities necessary to perform an accurate source test and will not have a significant impact on air quality.

Other changes reflect clerical amendments intended to clarify the requirements, eliminate redundancy and assure consistency with the conditions of both the ATC, as well as the PSD permit. None of these changes will have any significant impact on air quality or any other environmental impacts.

3.1.2 Biological Resources

The proposed changes to the Air Quality Conditions of Certification proposed in this Amendment will not cause any adverse impacts to biological resources.

3.1.3 Cultural Resources

The proposed changes to the Air Quality Conditions of Certification proposed in this Amendment will not have any effect on cultural resources in the area of the plant site.

3.1.4 Geology and Paleontology

The proposed changes to the Air Quality Conditions of Certification will not have any effect on geological resources or paleontological resources.

3.1.5 Hazardous Materials Management

This Amendment's proposed modifications to the Air Quality Conditions of Certification will not result in changes to the chemical inventory and quantities of chemicals for the project set forth in Appendix C of the Hazardous Materials section of the Commission Decision. Therefore, the proposed changes to the Air Quality Conditions of Certification will not result in changes to any Hazardous Materials Management conditions, findings or conclusions of the Commission Decision.

3.1.6 Land Use

The proposed changes to the Air Quality Conditions of Certification will not result in changes to the Decision's conditions, findings or conclusions regarding land use.

3.1.7 Noise and Vibration

The proposed changes to the Air Quality Conditions of Certification will not result in changes to the Decision's conditions, findings or conclusions regarding noise.

3.1.8 Public Health

The proposed changes to the Air Quality Conditions of Certification will not change the public health analysis previously conducted because all the emission limits will be equal to the existing permit limits.

3.1.9 Socioeconomics

The proposed changes to the Air Quality Conditions of Certification will have no effect on socioeconomics.

3.1.10 Soil and Water Resources

The proposed changes to the Air Quality Conditions of Certification will not impact soil and water resources.

3.1.11 Traffic and Transportation

The proposed changes to the Air Quality Conditions of Certification will not impact traffic.

3.1.12 Visual Resources

The proposed changes to the Air Quality Conditions of Certification will not impact visual resources.

3.1.13 Waste Management

The proposed changes to the Air Quality Conditions of Certification will not change or impact waste management practices or the types or quantities of waste generated by the construction or operation of the project.

3.1.14 Worker Safety and Fire Protection

The proposed changes to the Air Quality Conditions of Certification will not result in any impacts different than those analyzed by the CEC during certification, and the proposed changes do not affect the Commission Decision's conditions, findings or conclusions regarding worker safety and fire protection.

3.2 Changes to Onsite Landscaping Conditions

This Amendment modifies the onsite landscaping Condition of Certification (VIS-2) to allow planting to occur during the first optimal planting season following commercial operation of the project, versus completing onsite planting during an optimal planting season prior to the start of commercial operation. This proposal creates only a brief delay for the installation of onsite landscaping and results in no change to the landscaping ultimately completed for the project. Accordingly, the proposed changes to VIS-2 will not change the Decision's analyses of the various environmental impact discipline areas.

3.2.1 Air Quality

A brief delay for the planting of onsite landscaping will not cause any adverse impacts to air quality.

3.2.2 Biological Resources

The changes to the timing allowed to complete onsite landscaping will not cause any adverse impacts to biological resources. The proposed change does not impact the type or quantity of plants planned for the site, and therefore the requested delay will not involve

changes to the Decision's conditions, findings and conclusions for biological resource impacts.

3.2.3 Cultural Resources

The changes to the timing for planting onsite landscaping will not result in new ground disturbing activities or ground disturbance in areas not previously considered for construction. Therefore, this change will not affect cultural resources differently than as described in the Commission Decision and will not change the Decision's conditions, findings or conclusions regarding cultural resources.

3.2.4 Geology and Paleontology

A delay of the time allowed to complete onsite landscaping will not result in new ground disturbing activities, and will not result in changes to the Decision's conditions, findings or conclusions regarding geological resources or paleontological resources.

3.2.5 Hazardous Materials Management

The proposed change of the time allowed to complete onsite landscaping will have no effect on hazardous materials management.

3.2.6 Land Use

The proposed change of the time allowed to complete onsite landscaping will have no effect on land use.

3.2.7 Noise and Vibration

The proposed change of the time allowed to complete onsite landscaping will have no effect on noise.

3.2.8 Public Health

The proposed change of the time allowed to complete onsite landscaping will have no effect on public health.

3.2.9 Socioeconomics

The proposed change of the time allowed to complete onsite landscaping will have no impact on socioeconomics.

3.2.10 Soil and Water Resources

The proposed change of the time allowed to complete onsite landscaping will not result in changes to the infrastructure needed to water landscaping or the quantity of water needed for onsite plants. Therefore, this Amendment will not result in changes to the Commission Decision's conditions, findings or conclusions regarding soil and water resources.

3.2.11 Traffic and Transportation

The proposed change of the time allowed to complete onsite landscaping will have no traffic or transportation impacts.

3.2.12 Visual Resources

The proposed change of the time allowed to complete onsite landscaping causes only a brief delay to the installation of onsite landscaping, and therefore it will not result in changes to the Commission Decision's conditions, findings or conclusions regarding visual resources. One reason for this proposed change is to increase the likelihood that trees planted will become established and survive beyond the commercial operation date. This proposal effectively improves visual resources in the vicinity of the plant by ensuring that trees planted are healthy and survive well beyond the commercial operation date for the project. Therefore, the Amendment's changes to VIS-2 will not have a significant adverse impact to visual resources.

3.2.13 Waste Management

The proposed change of the time allowed to complete onsite landscaping will not change or impact waste management practices or the types or quantities of waste generated by the construction or operation of the project.

3.2.14 Worker Safety and Fire Protection

The proposed change to the timing for planting onsite landscaping will not result in any negative impacts to worker safety. In fact, delaying planting until after commercial operation improves worker safety by keeping the construction site clear of impediments until after construction of major structures is completed. Therefore, the Amendment's onsite landscaping proposed change does not affect the Commission Decision's conditions, findings or conclusions regarding worker safety and fire protection.

3.3 Changes to Condition VIS-9 and VIS-10

Deletion of Condition of Certification VIS-9 will not impact the environment. The trailside improvements described in this condition had been proposed in 2002 because the project at the location certified in 2002 would have blocked the view of Mt. Diablo from the Hayward Shoreline Interpretative Center. However, subsequent to the 2002 Decision, the project owner relocated the project to a location which no longer blocked views of Mt. Diablo from the Center. Therefore, these mitigation measures are no longer necessary to mitigate impacts to visual resources.

Changes to the Condition of Certification VIS-10 for offsite visual enhancement measures will not impact the environment. The proposed revision to VIS-10 would require the project owner to convey approximately 26 acres of shoreline land to the East Bay Regional Park District to be integrated into the EBRPD system of shoreline parks and to be maintained permanently as open space and habitat.

The dedication of land does not involve any physical change to the environment, therefore there is no possibility of any significant adverse environmental impact. In addition, there is

a specific categorical exemption under CEQA for the transfer of ownership of interests in land in order to preserve open space and habitat. (14 CCR 15325; Public Resources Code Sections 21083, 21084.) Therefore, it can be seen with certainty that this revision to VIS-10 will have no significant adverse effect on the environment.

3.4 Consistency of Amendment with the Certification and LORS

The Siting Regulations require a discussion of the consistency of the proposed project revisions with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision (Title 14, CCR Section 1769 [a][1][D]). If the project is no longer consistent with the certification, the petition for project change must provide an explanation for why the modification should be permitted.

This Amendment is consistent with all applicable LORS and is not based on new information that changes or undermines any bases for the final decision. The changes proposed for the Air Quality conditions are being made to clarify how the project owner will demonstrate compliance with applicable emissions limits and assure consistency between the Air Quality Conditions of Certification and the corresponding conditions of the ATC and PSD permit. Accordingly, such changes are consistent with LORS. The changes to the visual resource conditions do not conflict with any applicable LORS.

The findings and conclusions contained in the Commission Decision for the project are still applicable to the project as modified.

4.0 Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modifications proposed in this request for approval, per the Siting Regulations (Title 20, CCR, Section 1769[a][1][G]).

The modifications proposed in this Amendment will not affect the public or local economy, and therefore this Amendment poses no significant adverse effects on the public.

Specifically, the changes to the Air Quality Conditions of Certification involve minor clerical amendments to certain monitoring and testing requirements and to assure consistency between the Conditions of Certification and the ATC permit. There will be no change in air emissions, and therefore there are no potential effects on the public that would result from this part of the Amendment.

This Amendment proposes only a brief delay for the completion of onsite landscaping until after commercial operation of the project. The purpose of such a delay is to ensure that the landscaping installed survives and does not impede ongoing RCEC construction efforts. By allowing a brief delay for onsite landscaping, the public is benefitted because the chance of survival of the trees planted, and therefore the visual impacts of the project, is improved.

This Amendment deletes Condition VIS-9. The trailside improvements specified in this condition were intended to mitigate of the project when it was located on its original site. At this location, the project would have blocked views of Mt. Diablo from the Hayward Shoreline Interpretative Center. However, when the project site was relocated it no longer blocked this view. Therefore, the trailside improvements intended to mitigate this impact are no longer necessary.

This Amendment replaces a requirement in VIS-10 that the project owner plant trees on private property along the west side of the warehouses and industrial park complexes that face the shoreline south of the project site, with a requirement that the project owner convey to EBRPD 26 acres of shoreline open space that can be integrated into the shoreline park system for permanent use and enjoyment of the public. Therefore, this Amendment will have a beneficial impact on the public.

5.0 List of Property Owners and Potential Effects on Property Owners

5.1 List of Property Owners

In accordance with the Siting Regulations (Title 20, CCR, Section 1769[a][1][H]), the project owner shall provide the Compliance Project Manager for the project a list of all property owners whose property is located within 500 feet of the project.

5.2 Potential Effects on Property Owners

This section addresses potential effects of the project changes proposed in this Amendment on nearby property owners, the public, and parties in the application proceeding, per the Siting Regulations (Title 20, CCR, Section 1769 [a][1][I]).

As described in this Amendment, there would be no significant adverse environmental impacts from the adoption of changes to the Air Quality Conditions of Certification or from a delay for the timeframe for planting onsite landscaping. Therefore, no significant adverse effects on property owners would result from the adoption of the changes proposed in this Amendment. Deletion of Condition VIS-2 will have no effect on property owners because no physical changes will result from the deletion of this condition. Finally, modifying VIS-10 to require conveyance of 26 acres of open space land will not have any adverse effect on property owners because the conveyance of land will not result in any physical change in the land.

6.0 Proposed Changes to Conditions of Certification

6.1 Amendments to Air Quality Conditions of Certification

AIR DISTRICT CONDITIONS OF CERTIFICATION

Permit Conditions

(A) Definitions:

Clock Hour:	Any continuous 60-minute period beginning on the hour
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in BTU/scf.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in minutes.
MM BTU:	million British thermal units
Gas Turbine Warm and Hot Start-up Mode:	The lesser of the first 180 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification AQ-19(b) and 19(d) .
Gas Turbine Cold Start-up Mode:	The lesser of the first 360 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification AQ-19(b) and 19(d) .
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the gas turbine or the period of time

from non-compliance with any requirement listed in Conditions of Certification **AQ-19(b) and through 19(d)** until termination of fuel flow to the gas turbine.

Gas Turbine Combustor:
Tuning Mode:

The period of time, not to exceed 360 minutes, in which testing, adjustment, tuning, and calibration operations are performed, as recommended by the gas turbine manufacturer, to insure safe and reliable steady-state operation, and to minimize NO_x and CO emissions. ~~The SCR and oxidation catalyst are not operating during the tuning operation.~~

Gas Turbine Cold Start-up: A gas turbine start-up that occurs more than 48 hours after a gas turbine shutdown.

Gas Turbine Hot Start-up: A gas turbine start-up that occurs within 8 hours of a gas turbine shutdown.

Gas Turbine Warm Start-up: A gas turbine start-up that occurs between 8 hours and 48 hours of a gas turbine shutdown.

Specified PAHs: The polycyclic aromatic hydrocarbons listed below shall be considered to be Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds:

Benzo[a]anthracene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Dibenzo[a,h]anthracene
Indeno[1,2,3-cd]pyrene

Corrected Concentration: The concentration of any pollutant (generally NO_x, CO, or NH₃) corrected to a standard stack gas oxygen concentration. For emission points P-1 (combined exhaust of S-1 gas turbine and S-3 HRSG duct burners), P-2 (combined exhaust of S-2 gas turbine and S-4 HRSG duct burners), the standard stack gas oxygen concentration is 15% O₂ by volume on a dry basis.

Commissioning Activities: All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the RCEC construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems during the commissioning period.

Commissioning Period: The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the

plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.

Precursor Organic
Compounds (POCs):

Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

CPM:

California Energy Commission Compliance Program Manager

RCEC:

Russell City Energy Center

CONDITIONS FOR THE COMMISSIONING PERIOD

AQ-11. No less than ~~90~~ **120** days after start-up, the owner/operator shall conduct District and Energy Commission approved source tests using certified continuous emission monitors to determine compliance with the emission limitations specified in **AQ-19**. The source tests shall determine NO_x, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods and shall include at least one cold start, one warm start, and one hot start. Twenty (20) working days before the execution of the source tests, the owner/operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. The District and the CPM will notify the owner/operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall incorporate the District and CPM comments into the test plan. The owner/operator shall notify the District and the CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CPM within 60 days of the source testing date.

Verification: No later than 30 working days before the commencement of the source tests, the project owner shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. The District and the CPM will notify the project owner of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The project owner shall incorporate the District and CPM comments into the test plan. The project owner shall notify the District and the CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

CONDITIONS FOR THE GAS TURBINES (S-1 & S-3) AND THE HRSGS (S-2 & S-4)

AQ-12. The owner/operator shall fire the gas turbines (S-1 & S-3) and HRSG duct burners (S-2 & S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To

demonstrate compliance with this limit, the operator of S-1 through S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the RCEC. In the event that the rolling 12-month average sulfur content exceeds 0.25 grain per 100 standard cubic feet, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions. The reduced annual heat input rate shall be subject to District review and approval. (BACT for SO₂ and PM₁₀)

Verification: The project owner shall complete, on a monthly basis, a laboratory analysis showing the sulfur content of natural gas being burned at the facility. The sulfur analysis reports shall be incorporated into the quarterly compliance reports.

Verification: As part of the quarterly and annual compliance reports, the project owner shall provide information on any major problem in the operation of the oxidizing catalyst and SCR Systems for the gas turbines and HRSGs. The information shall include, at a minimum, the date and description of the problem and the steps taken to resolve the problem.

- AQ-19.** The owner/operator shall ensure that the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements **(a) through (h)** under all operating scenarios, including duct burner firing mode. Requirements **(a) through (h)** do not apply during a gas turbine start-up, combustor tuning operation or shutdown. (BACT, PSD, and Regulation 2, Rule 5)
- (a) Nitrogen oxide mass emissions (calculated as NO₂) at P-1 (the combined exhaust point for S-1 gas turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired, averaged over any 1-hour period. Nitrogen oxide mass emissions (calculated as NO₂) at P-2 (the combined exhaust point for S-3 gas turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired, averaged over any 1-hour period.
 - (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O₂, averaged over any 1-hour period. (BACT for NO_x)
 - (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 10 pounds per hour or 0.045 lb/MM BTU of natural gas fired, averaged over any 1-hour period. (PSD for CO)
 - (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O₂, averaged over any 1-hour period. (BACT for CO)
 - (e) Ammonia (NH₃) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O₂, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the use of a District approved calculation continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points

~~P-1 and P-2 shall be determined in accordance with permit condition 30. (Regulation 2-5)~~

- (f) Precursor organic compound (POC) mass emissions (as CH₄) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT)
- (g) Sulfur dioxide (SO₂) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT)
- (h) Particulate matter (PM₁₀) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM₁₀/MM BTU of natural gas fired. (BACT)

Verification: The project owner shall submit to the District and CPM, quarterly reports for the proceeding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year. The quarterly and annual compliance summary reports shall contain the following information:

- (a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
- (b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.
- (c) Date and time of the beginning and end of each startup and shutdown period.
- (d) Average plant operation schedule (hours per day, days per week, weeks per year).
- (e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.
- (f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, POC and SO_x (including calculation protocol).
- (g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District.
- (h) A log of all excess emissions, including the information regarding malfunctions/breakdowns.
- (i) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.
- (j) Any maintenance to any air pollutant control system (recorded on an as performed basis).

In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

AQ-20. The owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the gas turbines (S-1 & S-3) during a start-up or shutdown does not exceed the limits established below. The project owner shall not operate both of the gas turbines (S-1 & S-3) in start-up mode at the same time. (PSD)

POLLUTANT	Cold Start-Up Combustor Tuning	Hot Start-Up	Warm Start-Up	Shutdown
	lb/start-up	lb/start-up	lb/start-up	lb/start-up
NO _x (as NO ₂)	480.0	95	125	40
CO 5	2,514	891	2514	100
POC (as CH ₄)	83	35.3	79	16

--	--	--	--	--

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-26. The owner/operator shall demonstrate compliance with **AQ-13 through AQ-16, AQ-19(a) through (d), AQ-20, AQ-22(a) and (b), AQ-23(a) and (b)** by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shutdown periods) for all of the following parameters:

- (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (b) Oxygen (O₂) concentration, Nitrogen Oxides (NO_x) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2.
- (c) Ammonia injection rate at A-1 and A-3 SCR Systems The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

The owner/operator shall use the parameters measured above and District approved calculation methods to calculate the following parameters:

- (d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (e) Corrected NO_x concentration, NO_x mass emission rate (as NO₂), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

For each source, source grouping, or exhaust point, the owner/operator shall record the parameters specified in **AQ-26(d) and (e)** at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:

- (f) total heat input rate for every ~~clock~~ hour.
- (g) on an hourly basis, the cumulative total heat input rate for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.
- (h) the average NO_x mass emission rate (as NO₂), CO mass emission rate, and corrected NO_x and CO emission concentrations for every ~~clock~~ hour.
- (i) on an hourly basis, the cumulative total NO_x mass emissions (as NO₂) and the cumulative total CO mass emissions, for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.
- (j) For each calendar day, the average hourly heat input rates, corrected NO_x emission concentration, NO_x mass emission rate (as NO₂), corrected CO emission concentration, and CO mass emission rate for each gas turbine and associated HRSG combined ~~and the auxiliary boiler~~.

- (k) on a daily basis, the cumulative total NO_x mass emissions (as NO₂) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-1, S-2, S-3 and S-4) combined.
(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

Verification: At least 30 days before first fire, the project owner shall submit to the CPM a plan on how the measurements and recordings required by this condition will be performed.

AQ-27. To demonstrate compliance with conditions **AQ-19(f) thru (h)**, **AQ-22(c) thru (e)(d) thru (f)**, and **AQ-23(c) thru (e)**, the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM₁₀) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO₂) mass emissions from each power train. The owner/operator shall use the actual heat input rates measured pursuant to **AQ-26**, actual gas turbine start-up times, actual gas turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under **AQ-30** to calculate these emissions. The owner/operator shall present the calculated emissions in the following format:

- (a) For each calendar day, POC, PM₁₀, and SO₂ emissions, summarized for each power train (gas turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3 & S-4) combined
- (b) on a daily basis, the cumulative total POC, PM₁₀, and SO₂ mass emissions, for each year for all eight sources (S-1, S-2, S-3 & S-4) combined
(Offsets, PSD, Cumulative Increase)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-29. Within ~~90~~ 120 days of start-up of the RCEC, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to establish the factors to be used to determine ~~the corrected ammonia (NH₃) emission concentration to determine~~ compliance with **AQ-19(e)**. ~~The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH₃ mission concentration at emission point P-1 or P-2.~~ The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. The owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with **AQ-19(e)** shall be demonstrated through calculations of corrected ammonia concentrations based upon the factors established during source testing described in this part 29 source test correlation and continuous records of the calculated ammonia slip injection rate. The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (Regulation 2, Rule 5)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQ-30. ~~Within 90 days of start-up of the RCEC and on~~ **thereafter**, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and associated Heat Recovery Steam Generator are operating at maximum load to determine compliance with **AQ-19(a),(b),(c),(d),(f),(g), and (h)** and while each gas turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with **AQ-19(c) and (d)**, and to verify the accuracy of the continuous emission monitors required in **AQ-26**. **The For the purposes of testing at maximum load only,** owner/operator shall test for (as a minimum): water content; stack gas flow rate; oxygen concentration; precursor organic compound concentration and mass emissions; nitrogen oxide concentration and mass emissions (as NO₂); carbon monoxide concentration and mass emissions; sulfur dioxide concentration and mass emissions; methane; ethane; and, particulate matter (PM₁₀) emissions, including condensable particulate matter. The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (BACT, offsets)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQ-32. Within ~~90~~ **120** days of start-up of the RCEC and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the gas turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with **AQ- 25**. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to **AQ-25** for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant:

- Benzene ≤ 6.4 pounds/year and 2.9 pounds/hour
- Formaldehyde <30 pounds/year and 0.21 pounds/hour
- Specified PAHs ≤ 0.011 pounds/year
- (Regulation 2, Rule 5)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQ-33. The owner/operator shall calculate the SAM emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to **AQ-3034**. If this SAM mass emission limit of **AQ-24** is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in μ g/m³) of the sulfuric acid mist emissions pursuant to Regulation 2-2-306. (PSD)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQ-34. Within ~~90~~ **120** days of start-up of the RCEC and on a ~~semi~~-annual basis (~~twice per year~~) thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and HRSG duct burner is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in **AQ-24**. The owner/operator shall test for (as a minimum) SO₂, SO₃, and H₂SO₄. After acquiring one year of source test data on these sources, the owner/operator may petition the District to reduce the test frequency to an annual basis if test result variability is sufficiently low as determined by the District. The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (PSD)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQ-42. Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Russell City Energy Center shall submit an application for a Title IV operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, or S-3, ~~S-5, or S-7~~) or HRSGs (S-2, or ~~S-4, S-6, or S-8~~). (Regulation 2, Rule 7)

Verification: The project owner shall submit to the CPM copies of the Federal (Title IV) Acid Rain and (Title V) Operating Permit within 30 days after they are issued by the District.

Permit Conditions for Cooling Towers

AQ-45. The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to the initial operation of the Russell City Energy Center, the owner/operator shall have the cooling tower vendor's field representative inspect the cooling tower drift eliminators and certify that the installation was performed in a satisfactory manner. Within ~~60~~ **120** days of the initial operation of the cooling tower, the owner/operator shall perform an initial performance source test to determine the PM₁₀ emission rate from the cooling tower to verify compliance with the vendor-guaranteed drift rate specified in **AQ-44**. The CPM may require the

owner/operator to perform source tests to verify continued compliance with the vendor-guaranteed drift rate specified in **AQ-44**. (PSD)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

6.2 Amendments to Visual Resource Conditions of Certification

VIS-2 Prior to the first turbine roll, the project owner shall prepare and implement an approved onsite landscape plan to screen the power plant from view to the greatest extent possible. Suitable irrigation shall be installed to ensure survival of the plantings. Landscaping shall be installed consistent with the City of Hayward zoning ordinance and with the U.S. Fish and Wildlife Service's recommendations, if applicable, that plants not provide opportunities for perching by birds of prey.

Protocol: The project owner shall submit a landscape plan to the City of Hayward for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the City's comments. The plan shall include, but not be limited to:

- 1) A detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives.
- 2) An installation schedule. The project owner shall not implement the landscape plan until the project owner receives approval of the plan from the CPM. The planting must be completed ~~during the~~ by the start of commercial operation, and the planting must occur during the first optimal planting season (either March through June or September through November) following the start of commercial operation.
- 3) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
- 4) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

Verification: Prior to the first turbine roll and at least 60 days prior to installing the landscaping, the project owner shall submit the landscape plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM would approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within seven days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

VIS-9 is deleted in its entirety.

VIS-10 The project owner shall convey to the East Bay Regional Park District ("District") that real property comprising approximately 26 acres as described in Appendix A to the project owner's Petition for Modification dated [] (the "Donated Property"). The project owner shall also contribute to the District on a pro rata basis one-half of the amount of an endowment fund necessary to operate the Donated Property, which contribution shall not exceed \$150,000. The payment schedule for such contribution shall be agreed upon by the District and the project owner.

Verification: The project owner shall notify the CPM within 30 days of (1) conveyance of the Donated Property, (2) execution of the endowment fund payment schedule between the District and the project owner, and (3) payment of the final payment by the project owner pursuant to payment schedule.

~~**VIS-10** Prior to the start of construction, the project owner shall prepare and implement an approved off-site landscaping plan. Consistent with Measure 3 of the Visual Mitigation Plan, the project owner shall install trees along the west side of the warehouse and industrial park complexes that line the eastern edge of the shoreline wetlands. The extent of the landscaping area, as shown in Visual Resources Figure 14 shall be expanded to include the berm from Breakwater Avenue north to Johnson Road. Trees shall be planted close together to create a dense screen. Trees planted along the edge of the Whitesell Business Park parking lot shall be pruned up as they grow to allow westward views from the parking lot to the shoreline open space. Trees planted close to the walls of the warehouses shall be allowed to take on a bush-like form to maximize their screening potential.~~

~~All tree species shall be fast growing and evergreen and shall be 24" box size when planted. The project owner shall provide an appropriate level of irrigation and fertilization to ensure optimal tree growth, health, and appearance.~~

~~Protocol: Prior to start of construction, the project owner shall submit an offsite landscape plan to the City of Hayward and the U.S. Fish and Wildlife Service, if applicable, for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the City's comments. The plan shall include, but not be limited to:~~

- ~~1) A detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation~~

- sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives.
- 2) An installation schedule. The project owner shall not implement the landscape plan until the project owner receives approval of the plan from the CPM. The planting must be completed by the start of commercial operation, and the planting must occur during the optimal planting season.
 - 3) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
 - 4) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project. The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

Verification: At least 90 days prior to start of construction, the project owner shall submit the offsite landscape plan to the CPM for review and approval. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM would approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within seven days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

ATTACHMENT A

LEGAL DESCRIPTION OF LAND

The land described herein is situated in the City of Hayward, County of Alameda, State of California, and is described as follows:

Parcel 1:

Portion of the parcel of land described in the deed by Johanna M. Warneke, as executrix of the Last Will and Testament of Mary A. Prest, Alias, deceased, to C.N. Gadding, dated December 30, 1908, recorded June 8, 1909, in Book 1607 of Deeds, Page 228, Alameda County Records, described as follows:

BEGINNING at the Southwestern corner of said land conveyed to Gadding; and running thence along a line dividing Swamp and Overflow Land Survey No. 171 of Alameda County from the Rancho Arroyo Del La Alameda, North 10° 22' East, 1,380.31 feet to a point on the line established by Agreement between Arthur Warneke, Johanna M. Warneke and Mary Marsicano, dated June 25, 1931, recorded July 3, 1931, in Book 2605 of Official Records of Alameda County Page 459 (BB/38206); thence along said Agreement Line, the following courses and distances; South 27° 24' East 254.23 feet, South 6° 14' East 807.09 feet, South 88° 31' West, 322.97 feet and South 0° 03' West 327 feet to the southern line of said land conveyed to Gadding, being the Northern line of Johnson Road; and thence along the last named line North 87° 30' West 161.26 feet to the Point of Beginning.

EXCEPTING THEREFROM that portion conveyed to the City of Hayward, a municipal corporation in Instrument dated June 19, 1978, recorded August 3, 1978, Reel 5516, Image 237, Instrument No. 78/148844 of Alameda County Records.

APN 438-080-007-03

PARCEL 2:

BEGINNING at the intersection of the Southern line of Swamp and Overflowed Lands Survey No. 232 in Township 3 South, Range 2 and 3 West, Mount Diablo Base and Meridian, with the Northwestern line of the 200 foot strip of land of the San Francisco Bay Tool Bridge Company; running thence along the Southern line of said Survey No. 232, West 1002.28 feet to the Western line of said Survey, thence along the boundary line of said Survey the following six courses and distances, North 1,320 feet, West 2,640 feet, North 1,320 feet; East 2,640 feet, North 1,320 feet; and East 858 feet to a stake on the exterior boundary line of the Rancho Arroyo De La Alameda; thence along said boundary line South 15-1/2° West, 508.86 feet and Southeasterly to a point on the boundary line established by the Agreement between Andre Paper Box Company and Frances Marsicano Harris, et al., dated April 20, 1962, recorded April 20, 1962, on Reel 565, Image 223, (AT/52932) Alameda County Records, thence along the last said boundary line South 69° 12'3" East 854.55 feet to the Southern line of the land described in the Deed from Jose T. Baptista to M.B. Bettencourt

and Tony A. Bettencourt, dated January 15, 1924, recorded January 16, 1924, in Book 591, of Official Records of Alameda County, at Page 355 (t/88764); thence along the last line Easterly 142.85 feet to a point in the boundary line established by the Agreement between Arthur Warneke, Johanna M. Warneke and Mary Marsicano, dated June 25, 1931, recorded July 3, 1931 in Book 2605, of Official Records of Alameda County Records, at Page 459; thence Southeasterly along the last said line 565.07 feet to said exterior boundary line of the Rancho Arroyo De La Alameda; thence along the last said line Southerly to the Northwestern line of said 200 foot strip of the San Francisco Bay Too Bridge Company; thence along the last said line Southwesterly 1,382.21 feet, more or less, to the Point of Beginning.

EXCEPTING THEREFROM that portion thereof described in the Deed to the City of Hayward recorded September 24, 1965, Reel 1604, Image 694, Official Records, Instrument No. AX/I32369.

ALSO EXCEPTING THEREFROM:

Parcel A:

BEGINNING at a stake at the Southeast corner of the Northeast quarter of Section 36, in Township 3 South, Range 3 West, Mount Diablo Base and Meridian, and running thence North 387.42 feet thence North 82° 10' West, 1,331.88 feet; thence South 570.24 feet thence East 1,320 feet to the Point of Beginning.

Parcel B:

BEGINNING at the intersection of the line established by Agreement between Arthur Warneke, Johanna M. Warneke and Mary Marsicano, dated June 25, 1931, recorded July 3, 1931, in Book 2605, Official Records of Alameda County, Page 459, with the Northern line of the parcel of land described in the Deed by Johanna M. Warneke, as executrix of the Last Will and Testament of Mary A. Frese, alias, deceased, to C.N. Gadding, dated December 30, 1908, recorded June 8, 1909, in Book 1607 of Deeds, Page 228, Alameda County Records; and running thence along the last named line Westerly to the Western boundary line of the Rancho Arroyo De La Alameda; thence along the last named line Southeasterly to a point on the line established by Agreement above referred to; and thence along the last named line Northwesterly to the Point of Beginning.

Parcel C:

Those portions conveyed to the City of Hayward, a municipal corporation in Instrument dated June 19, 1978, recorded August 3, 1978, Reel 5516, Image 237, Official Records, Instrument No. 78/148844.

Parcel D:

Those portions conveyed to East Bay Regional Park District, in Instrument dated June 19, 1978, recorded August 3, 1978, Reel 5516, Image 202, Official Records, Instrument No. 78/148841.

APN: 438-0080-013-04

PARCEL 3:

BEGINNING at the intersection of the established by Agreement between Arthur Warneke, Johanna M. Warneke and Mary Marsicano, dated June 25, 1931, recorded July 3, 1931, in Book 2605 of Official Records of Alameda County, Page 459, with the Northern line of the Parcel of land described in the Deed by Johanna M. Warneke, as executrix of the Last Will and Testament of Mary A. Frese, Alias deceased to C.N. Gadding, dated December 30, 1908, recorded June 8, 1909, in Book 1607 of Deeds, Page 220, Alameda County Records; and running thence along the last named line Westerly to the Western boundary line of the Rancho Arroyo De La Alameda; thence along the last named line Southeasterly to a point on the line established by Agreement above referred to, and thence along the last named line Northwesterly to the Point of Beginning.

APN: 438-0080-012

ELLISON, SCHNEIDER & HARRIS L.L.P.

ANNE J. SCHNEIDER
1947-2010

CHRISTOPHER T. ELLISON
JEFFERY D. HARRIS
DOUGLAS K. KERNER
ROBERT E. DONLAN
ANDREW B. BROWN
GREGGORY L. WHEATLAND
CHRISTOPHER M. SANDERS
LYNN M. HAUG
PETER J. KIEL
ELIZABETH P. EWENS

ATTORNEYS AT LAW
2600 CAPITOL AVENUE, SUITE 400
SACRAMENTO, CALIFORNIA 95816
TELEPHONE: (916) 447-2166
FACSIMILE: (916) 447-3512
<http://www.eslawfirm.com>

BRIAN S. BIERING
CRAIG A. CARNES, JR.
JEDEDIAH J. GIBSON
CHASE B. KAPPEL
SHANE E. C. MCCOIN
SAMANTHA G. POTTINGER

OF COUNSEL:
RONALD LIEBERT

March 20, 2013



Bruce Boyer
Compliance Project Manager
Siting, Transmission and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS 2000
Sacramento, CA 95814

Re: Russell City Energy Center 01-AFC-7C
Amendment No. 4

Dear Mr. Boyer:

On behalf of Russell City Energy Company, LLC, we are submitting this addendum to the Petition for Modification No. 4 for the Russell City Energy Center. This addendum requests a nonsubstantive change in condition of certification AQ-SC12, to correct an inadvertent error and to ensure consistency with AQ-23 and the project's air permits, and requests a change to Condition of Certification HAZ-5 regarding the location of storage of combustible or flammable materials.

If you have any questions, please contact me at (916) 447-2166.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gregory L. Wheatland".

Gregory L. Wheatland

Attorneys for Russell City Energy
Company, LLC

GLW/cbk

Russell City Energy Center

(01-AFC-7C)

Addendum to Amendment No. 4

Submitted by
Russell City Energy Company, LLC
March 2013

Contents

Contents.....	iii
Executive Summary.....	iv
1.0 Introduction.....	1
1.1 Overview	1
1.2 Summary of Environmental Impacts of Modifications added to Amendment No. 4... ..	2
2.0 Description of Project Changes	3
2.1 Changes to Air Quality Condition of Certification AQ-SC12.....	3
2.2 Changes to the Limitations for Storage, Use and Transportation of Combustible and Flammable Materials (HAZ-5)	4
2.3 Necessity of Proposed Changes	5
3.0 Environmental Analysis of Proposed Project Changes and Consistency with LORS	6
3.1 Environmental Analysis of Changes to AQ-SC12.....	6
3.2 Environmental Analysis of Changes to HAZ-5	6
3.2.1 Air Quality	6
3.2.2 Biological Resources.....	6
3.2.3 Cultural Resources	7
3.2.4 Geology and Paleontology	7
3.2.5 Hazardous Materials Management.....	7
3.2.6 Land Use	7
3.2.7 Noise and Vibration	7
3.2.8 Public Health.....	7
3.2.9 Socioeconomics	8
3.2.10 Soil and Water Resources	8
3.2.11 Traffic and Transportation	8
3.2.12 Visual Resources	8
3.2.13 Waste Management.....	8
3.2.14 Worker Safety and Fire Protection.....	8
3.3 Consistency of Addendum to Amendment No. 4 with the Certification and LORS	8
4.0 Potential Effects on the Public and Property Owners	10
4.1 Potential Effects on the Public.....	10
4.2 Potential Effects on Property Owners	10

Executive Summary

Russell City Energy Company, LLC, as project owner, submits to the California Energy Commission (CEC or Commission) this addendum to Amendment No. 4 to the certification for the Russell City Energy Center (RCEC) (01-AFC-7), issued September 11, 2002 and subsequently amended, hereinafter “Decision.” Amendment No. 4 was filed with the Commission on November 13, 2012, and is currently pending. This addendum requests the following be added to Amendment No. 4:

- Modification of Condition of Certification AQ-SC12 to make a non-substantive, clerical change for purposes of consistency with other provisions relating to particulate matter (PM10) found in AQ-23 and for consistency with the conditions in the Authority to Construct (“ATC”) and Prevention of Significant Deterioration (“PSD”) air permits issued by the Bay Area Air Quality Management District (“BAAQMD”); and
- Modification of Condition of Certification HAZ-5 (relating to the location for the storage, use and transportation of combustible or flammable material), in order to provide flexibility in project layout and design without compromising safety.

Section 1.0 provides an overview of this addendum to Amendment No. 4 and a summary of the environmental impacts of the modifications. Section 2.0 further describes the proposed modifications, sets forth the proposed modifications to the Conditions of Certification, and addresses the necessity of the changes and the consistency of the changes with the Decision. Section 3.0 provides the environmental analyses for the modifications, and concludes that adoption of these changes will not result in any significant, unmitigated adverse environmental impacts. Section 3.0 also addresses compliance with laws, ordinances, regulations and standards (LORS) and finds that the project will continue to comply with all applicable LORS. Section 3.0 also confirms that the findings and conclusions contained in the Commission Decision of October 3, 2007 amending certification of the RCEC are still applicable to the project.

1.0 Introduction

1.1 Overview

By this addendum to Amendment No. 4 for the Russell City Energy Center project ("RCEC"), Russell City Energy Company, LLC ("project owner"), petitions the Commission to amend the certification for the project as follows:

- Modify Condition of Certification AQ-SC12 to make a non-substantive, clerical change for purposes of consistency with other provisions relating to particulate matter (PM10) found in AQ-23 and for consistency with the conditions in the Authority to Construct ("ATC") and Prevention of Significant Deterioration ("PSD") air permits issued by the Bay Area Air Quality Management District ("BAAQMD"); and
- Modify Condition of Certification HAZ-5 (relating to the storage, use and transportation of combustible or flammable material) to provide flexibility in project layout and design without compromising safety.

This addendum to Amendment No. 4 contains all of the information that is required with respect to these additional changes pursuant to the Siting Regulations (California Code of Regulations [CCR] Title 20, Section 1769, Post Certification Amendments and Changes). The additional information necessary to fulfill the requirements of Section 1769 for Amendment No. 4 is contained in Sections 1.0 through 4.0 as summarized in Table 1 below.

TABLE 1
Informational Requirements for Post-Certification Amendments and Changes

Section 1769 Requirement	Section of Petition Fulfilling Requirement
(A) A complete description of the proposed modifications, including new language for any conditions that will be affected	Section 2.0
(B) A discussion of the necessity for the proposed modifications	Section 2.3
(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time	Section 2.3
(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted	Sections 3.3
(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts	Section 3.0

TABLE 1
Informational Requirements for Post-Certification Amendments and Changes

Section 1769 Requirement	Section of Petition Fulfilling Requirement
(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards	Section 3.3
(G) A discussion of how the modification affects the public	Section 4.1
(H) A list of property owners potentially affected by the modification	Section 4.2
(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings	Section 4.2

1.2 Summary of Environmental Impacts of Modifications Added to Amendment No. 4

The Siting Regulations require that an analysis be conducted to address the potential impacts the proposed modification of project design, operation, or performance requirements may have on the environment and proposed measures to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 [a][1][E]). The regulations also require a discussion of the impact of the proposed change on the facility's ability to comply with applicable laws, ordinances, regulations and standards (Title 20, CCR Section 1769 [1][a][F]).

Section 3.0 of this addendum includes a discussion of the potential environmental impacts associated with the proposed modifications to Conditions of Certification AQ-SC12 and HAZ-5, as well as a discussion of the consistency of the modification with LORS. Section 3.0 concludes that there would be no significant environmental impacts associated with implementing the modifications specified in this addendum to Amendment 4, and that the project as modified would comply with all applicable LORS. In particular:

- Amendment of Condition of Certification AQ-SC12 will have no significant adverse impact on the environment because these changes are non-substantive and clerical, and are consistent with the currently licensed limits for emission of PM10.
- Changes to Condition of Certification HAZ-5 for the storage, use and transportation of combustible and flammable materials will have no significant adverse impact on the environment. The revision to the condition will provide flexibility in project layout and design, while at the same time assuring continued safety of site conditions, and continued consistency with all applicable LORS.

2.0 Description of Project Changes

This section includes a complete description of the additional proposed changes in project design, operation, or performance requirements, consistent with the Siting Regulations (Title 20, CCR, Section 1769 [a][1][A]).

2.1 Changes to Air Quality Condition of Certification AQ-SC12

This addendum to Amendment No. 4 requests a change to the Air Quality Condition of Certification AQ-SC12 for purposes of consistency with AQ-23, as amended by Amendment No. 2. This change brings the emission credit obligations of AQ-SC12 in line with the emission limits established in the Decision and the project's ATC and PSD air permits.

On August 11, 2010, the Commission approved Amendment No. 2,¹ which modified the Air Quality Conditions of Certification in the original 2002 Decision to conform to the project's federal PSD permit and enabled the renewal of the ATC issued by the BAAQMD. Among those changes, AQ-23 was amended to be consistent with the air permits' lowered limits for emissions from the project's gas turbines, heat recovery system generators ("HRSG"), cooling tower, and fire pump diesel engine. In Amendment No. 2, AQ-23 was amended to reduce the annual emission limit for PM10 from 86.8 tons to 71.8 tons.

AQ-SC12 requires the project owner to make available to Hayward residents a voluntary program to finance fireplace retrofit or woodstove replacement. In the 2002 Decision, this program was required to provide 43.4 tons of winter-time PM10 emission reduction credits ("ERC") per year, which represents 50% of the total PM10 limit of 86.8 tons. However, when Amendment No. 2 reduced the PM10 limit in AQ-23 from 86.8 tons to 71.8 tons, the Commission inadvertently neglected to make a corresponding change in AQ-SC12, in order to reduce the 50% ERC obligation from 43.4 tons to 35.9 tons.

The project owner requests that this oversight be corrected by amending AQ-SC12 to reduce the ERC requirement to 35.9 tons, which is 50% of the PM10 limit of 71.8 tons in AQ 23. This value, 71.8 tons, is also the limit specified in the ATC.

The project owner requests the following modification to AQ-SC12:

AQ-SC12 A fireplace retrofit/woodstove replacement program shall be made available to all Hayward residents on a first-come, first-serve basis to finance a voluntary woodstove replacement/fireplace retrofit. The program can also made available to all residents of the cities of Fremont, Newark, Union City, San Leandro, Oakland, Emeryville, Albany, Piedmont, Berkeley, Alameda and the unincorporated communities of San Lorenzo and Castro Valley after twelve (12) months from the start date of the fireplace retrofit/woodstove

¹ California Energy Commission. 2010. Order Amending the Energy Commission Decision, Russell City Energy Center, Petition for Amendment No. 2 (01-AFC-07C), Alameda County. California Energy Commission, Sacramento, California. August 11, 2010.

replacement program. The program shall provide a minimum of ~~43.4~~ 35.9 tons of winter-time (Oct 1 to Mar 31) PM10 ERCs per year. Each resident participating in the retrofit/replacement program would agree to replace their existing woodstove or fireplace with a natural gas-fired unit, or to permanently close the fireplace or woodstove chimney and apply the rebate toward the improvement or replacement of their homes' existing central heating and air conditioning unit. Quarterly status reports on the program meeting the following milestones shall be submitted to the CPM:

- a. achieving 6.5 tons per year of winter-time PM10 six (6) months after start of construction,
- b. achieving 13.0 tons per year of winter-time PM10 nine (9) months after start of construction.
- c. achieving 21.7 tons per year of winter-time PM10 twelve (12) months after start of construction.
- d. achieving 34.7 tons per year of winter-time PM10 eighteen (18) months after start of construction.
- e. achieving ~~43.4~~ 35.9 tons per year of winter-time PM10 twenty four (24) months after start of construction.

Verification: At least ninety (90) days before start of construction, the project owner shall submit to the CPM a plan detailing the fireplace/woodstove replacement program for approval. The plan shall include, at the minimum, the description of the program, the amount of rebate, the person (or agency) who oversees the program implementation, the responsible person who reports to the CPM on the progress of the program implementation, the target milestones, and procedures to be followed if the target milestones have not been met. The project owner shall submit documentation to show compliance with this condition in the quarterly and annual reports as required in **AQ-2019**.

2.2 Changes to the Limitations for Storage, Use and Transportation of Combustible and Flammable Materials (HAZ-5)

Condition of Certification HAZ-5 requires that a minimum distance of 50 feet be maintained between combustible or flammable materials and the sulfuric acid tank. This condition is intended to protect against the potential release of sulfuric acid through volatilization in the event of fire. In order to provide greater flexibility in the layout and design of the project, while maintaining the necessary precautions to protect from the risk of fire, the project owner requests that Condition of Certification HAZ-5 be modified to allow a setback of less than 50 feet between the sulfuric acid tank and any combustible or flammable materials if (a) the CBO approves the design and construction of a physical barrier or firewall that is consistent with applicable fire prevention standards; and (b) a physical barrier or firewall is constructed and maintained consistent with the CBO's specifications.

Accordingly, the project owner requests that the following modification to HAZ-5 be added to Amendment No. 4:

HAZ-5 The project owner shall ensure that no combustible or flammable material is stored, used, or transported within 50 feet of the sulfuric acid tank, or within less than 50 feet, provided the project owner constructs or installs a physical barrier between the sulfuric acid tank and the location of any combustible or flammable material that meets design and construction requirements established by the California Building Code, as verified by the CBO.

Verification: At least sixty (60) days prior to receipt of sulfuric acid on-site, the project owner shall provide to the CPM for review and approval copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material and the route by which such materials will be transported through the facility.

2.3 Necessity of Proposed Changes

The Siting Regulations require a discussion of the necessity for the proposed revisions to the RCEC project design, operation or performance requirements, and whether the modifications are based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 [a][1][B], and [C]).

AQ-SC12

Changes to Condition of Certification AQ-SC12 are necessary to assure consistency between the conditions of the project's CEC license and the conditions of the ATC and PSD air permits. At the time of the Decision, AQ-SC12's ERC obligation was based on the PM10 emission limit set at that time, and later reduced. Therefore this change was based on information not known by the project owner at the time of the certification proceeding. The need to modify AQ-SC12 to fix this inconsistency was recently discovered.

HAZ-4

Changes to HAZ-5 are necessary to assure that the project site includes the necessary fire safety protections while providing needed flexibility in the project layout and design. At the time of the Decision, the project owner did not anticipate that the final project layout would require modification of this condition.

3.0 Environmental Analysis of Proposed Project Changes and Consistency with LORS

The proposed project changes added by this addendum to Amendment No. 4 are evaluated below. The end of this section addresses the consistency with LORS of the proposed changes to the Air Quality and Hazardous Resource Conditions of Certification.

3.1 Environmental Analysis of Changes to AQ-SC12

Modification of Condition of Certification AQ-SC12 will not impact the environment. This modification is non-substantive and clerical in nature, as it is being made to align the obligations of AQ-SC12 with the emission limits for PM10, as reduced by Amendment No. 2 and the project's ATC and PSD air permits. Because this change is the result of the imposition of a reduction in PM10, the project owner's corresponding ERC obligation must also be reduced by an equivalent amount. This modification does not involve any increase in the emissions of PM10, reverse the level of mitigation of PM10 emissions, or cause any physical change to the environment. Therefore, there is no possibility of any significant adverse environmental impact.

3.2 Environmental Analysis of Changes to HAZ-5

This addendum to Amendment No. 4 makes a minor modification to HAZ-5 to provide the project owner needed flexibility in the project's layout and design, without compromising fire safety. Below, an environmental analysis for each of the 14 different discipline areas is conducted. This section concludes that no significant potential change to the environment occurs for any of the environmental impact discipline areas, and therefore the proposed changes to HAZ-5 will not change the Decision's analyses of the various environmental impact discipline areas.

3.2.1 Air Quality

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not impact air emissions and does not cause any adverse impacts to air quality.

3.2.2 Biological Resources

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not cause any adverse impacts to biological resources, as any changes to project layout and design will only occur on-site and will have no impact on vegetation or animal species. Therefore the requested modification will not involve changes to the Decision's conditions, findings and conclusions for biological resource impacts.

3.2.3 Cultural Resources

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not result in new ground disturbing activities off the project site or ground disturbance in areas not previously considered for construction. Therefore, this change will not affect cultural resources differently than as described in the Commission Decision and will not change the Decision's conditions, findings or conclusions regarding cultural resources.

3.2.4 Geology and Paleontology

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not result in new ground disturbing activities, and will not result in changes to the Decision's conditions, findings or conclusions regarding geological resources or paleontological resources.

3.2.5 Hazardous Materials Management

Any project layout or design changes made possible by the proposed modification of HAZ-5 will have no significant environmental effect on hazardous materials management. The intent of this condition is to protect against the risk of fire involving combustible materials and the sulfuric acid storage tank. The changes proposed to HAZ-5 continue to assure the necessary level of fire safety while giving the project owner needed flexibility in project layout and design. Significantly, under the proposed language change in this addendum to Amendment No. 4, flammable or combustible materials may only be located within 50 feet of the sulfuric acid tank if a firewall meeting applicable standards is designed to standards approved by the CBO. The proposed modification of HAZ-5 does not involve modification of the amount or types of hazardous substances used or stored at the project site. For these reasons, the flexibility incorporated into HAZ-5 by this addendum to Amendment No. 4 will not cause any adverse impacts to hazardous materials management.

3.2.6 Land Use

Any project layout or design changes made possible by the proposed modification of HAZ-5 will occur entirely on the project site and will have no significant environmental effect on land use.

3.2.7 Noise and Vibration

Any project layout or design changes made possible by the proposed modification of HAZ-5 will remain in compliance with the Noise Conditions of Certification in the CEC license and will have no effect on noise levels on or off-site.

3.2.8 Public Health

Any project layout or design changes made possible by the proposed modification of HAZ-5 will have no significant environmental effect on public health. The intent of this condition is to provide protection from fires involving sulfuric acid, and the changes sought by this addendum to Amendment No. 4 would continue to assure the necessary level of fire safety while giving the project owner needed flexibility in project layout and design. Therefore, the proposed change in HAZ-5 will not impact fire safety and will have no effect on public health.

3.2.9 Socioeconomics

Any project changes resulting from modification to HAZ-5 will have no impact on socioeconomics.

3.2.10 Soil and Water Resources

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not result in changes to the Decision's conditions, findings or conclusions regarding soil and water resources.

3.2.11 Traffic and Transportation

Any project layout or design changes made possible by the proposed modification of HAZ-5 will have no traffic or transportation impacts.

3.2.12 Visual Resources

Any project layout or design changes made possible by the proposed modification of HAZ-5 will have no off-site visual impact, and therefore it will not result in changes to the Commission Decision's conditions, findings or conclusions regarding visual resources.

3.2.13 Waste Management

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not change or impact waste management practices or the types or quantities of waste generated by the construction or operation of the project.

3.2.14 Worker Safety and Fire Protection

Any project layout or design changes made possible by the proposed modification of HAZ-5 will not result in any negative impacts to worker safety. The purpose of the proposed changes to this condition is to provide the project owner needed flexibility in project layout and design, while not compromising fire safety. Therefore, this addendum to Amendment No. 4 will not affect the Decision's conditions, findings or conclusions regarding worker safety and fire protection.

3.3 Consistency of Addendum to Amendment No. 4 with the Certification and LORS

The Siting Regulations require a discussion of the consistency of the proposed project revisions with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision (Title 14, CCR Section 1769 [a][1][D]). If the project is no longer consistent with the conditions of certification, the petition for project change must provide an explanation for why the modification should be permitted.

Amendment No. 4, as modified by this addendum, is consistent with all applicable LORS and is not based on new information that changes or undermines any bases for the final

Decision. The findings and conclusions contained in the Commission Decision for the project are still applicable to the project as modified. Because the changes to AQ-SC12 are being made to reflect lowered emission limits for PM10 made to the ATC and PSD air permits, these changes are in compliance with LORS.

The changes to HAZ-5 do not conflict with any ordinance, regulation or standard addressing the storage of sulfuric acid or the treatment of combustible materials on-site. Where the project owner pursues an option to comply with HAZ-5, as amended, by construction of a physical barrier or firewall, the CBO will be responsible for ensuring that the design and construction of such barrier complies with applicable LORS. Accordingly, as modified, HAZ-5 continues to be in compliance with applicable LORS.

4.0 Potential Effects on the Public and Property Owners

4.1 Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modifications proposed in this addendum to Amendment No. 4, per the Siting Regulations (Title 20, CCR, Section 1769[a][1][G]).

The modifications added by this addendum to Amendment No. 4 will not affect the public or local economy, and therefore they pose no significant adverse effects on the public.

Specifically, the changes to Condition of Certification AQ-SC12 are non-substantive and clerical amendments that assure consistency between the Air Quality Conditions of Certification AQ-SC12 and AQ-23. There will be no change in air emissions, or in the intended levels of PM10 mitigation, and therefore there are no potential effects on the public as a result.

This addendum proposes adding an additional option to construct a physical barrier or firewall to ensure that the sulfuric acid tank is safely separated from all flammable and combustible materials in the event that such materials are located within 50 feet of the tank. The CBO will be responsible for approving the design and construction of such barrier, and ensuring that it is consistent with all applicable LORS. Therefore, this modification to HAZ-5 will have no impact on the public.

4.2 Potential Effects on Property Owners

This section addresses potential effects of the project changes proposed in this addendum to Amendment No. 4 on nearby property owners, the public, and parties in the application proceeding, per the Siting Regulations (Title 20, CCR, Section 1769 [a][1][I]).

As described above, there would be no significant adverse environmental impacts from the adoption of changes to Conditions of Certification AQ-SC12 or HAZ-5. Therefore, no significant adverse effects on property owners would result from the adoption of the changes proposed herein.

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



California Energy Commission

DOCKETED
01-AFC-7C

TN # 70245

APR. 08 2013

DATE: April 8, 2013**TO:** Interested Parties**FROM:** Bruce Boyer, Compliance Project Manager**SUBJECT: Errata to the Russell City Energy Center Project (01-AFC-7C)
Staff Analysis of Proposed Modifications to Amend Air Quality,
Visual and Hazardous Materials Conditions of Certification**

On April 5, 2013, the California Energy Commission (Energy Commission) Staff published its analysis of the proposed modifications to the Energy Commission's Final Decision (Commission Decision) for the Russell City Energy Center (RCEC) project.

Energy Commission Staff has identified the need to publish an errata to make a correction to Condition of Certification **VIS-2** and make minor corrections to several Air Quality Conditions of Certification. The revisions to the April 5, 2013, filing are shown in ~~**bold double strike out**~~ for deletions and **bold double underline** for additions.

On November 8, 2012, Russell City Energy Company, LLC, owner of the RCEC, filed a Petition to Amend with the Energy Commission to modify the Energy Commission's Final Decision for the RCEC project. RCEC requested to bifurcate the Air Quality portion of the amendment on December 20, 2012. On February 13, 2013 a request to change the **VIS-10** portion of the amendment was received. Energy Commission staff received an addendum to the November 8 submittal that requested modification of **AQ-SC12** and **HAZ-5**. Commission staff (staff) prepared an analysis of these proposed changes, and a copy is enclosed for your information and review.

The RCEC project will be a 600 MW combined cycle power plant located in the City of Hayward, in Alameda County. The project was certified by the Energy Commission in October of 2007, is currently under construction and is approximately 88 percent complete.

The requested modifications would (1) modify Condition of Certification **VIS-2** to allow onsite landscape planting in the first optimal planting season following commercial operation; (2) delete Condition of Certification **VIS-9** (trailside improvements) because the condition is not feasible and is no longer necessary; (3) modify Condition of Certification **VIS-10** to provide alternative offsite visual enhancement measures; (4) make certain clarifications to various **AIR QUALITY** Conditions of Certification; and (5) modify Condition of Certification **HAZ-5** to allow a setback of less than 50 feet between the sulfuric acid tank and any combustible or flammable materials if (a) the Chief Building Official (CBO) approves the design and construction of a physical barrier or firewall that is consistent with applicable fire prevention standards; and (b) a physical barrier or firewall is constructed and maintained consistent with the CBO's specifications and approved by the Energy Commission Compliance Project Manager.

In response to the amendment filing by the project owner, and subsequent Notice of Receipt published by Energy Commission staff, several comments were received by interested parties. Only the comments that are the subject of the amendment are addressed in the staff analysis. This analysis will not address the project owner's request to modify Condition of Certification **VIS-10**. Staff's analysis of the request to modify **VIS-10** will be published at a later date.

Staff has reviewed the petition and assessed the impacts of the proposed modifications on environmental quality, public health and safety, and proposes revisions to the Commission Decision and existing conditions of certification **VIS-2, HAZ-5, AQ-10, AQ-11, AQ-12, AQ-19, AQ-20, AQ-22, AQ-23, AQ-26, AQ-27, AQ-29, AQ-30, AQ-31, AQ-32, AQ-33, AQ-34, AQ-42, AQ-44, AQ-45, and AQ-SC13**. Staff also proposes to delete conditions of certification **VIS-9 and AQ-SC12**.

It is staff's opinion that, with the implementation of the revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS).

The amendment petition and staff's analysis have been posted on the Energy Commission's webpage at:

http://www.energy.ca.gov/sitingcases/russelcity_amendment/amendment_four/index.html

The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition (with the exception of **VIS-10**) at the May 8, 2013, Business Meeting of the Energy Commission.

Agencies and members of the public who wish to provide written comments on the Staff Analysis are asked to submit comments to the Energy Commission Dockets Unit **prior to 5:00 p.m. May 6, 2013**. Please include the docket number 01-AFC-7C in the subject line of your comments. Those submitting comments electronically should provide them in either Microsoft Word format or as a Portable Document Format (PDF) to docket@energy.ca.gov. Please include your name or organization's name in the file name. Those preparing non-electronic written comments should mail or hand deliver them to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-7C
1516 Ninth Street
Sacramento, CA 95814-5512

All written comments and materials filed with the Dockets Unit will become part of the public record of the proceeding. Additionally, comments may be posted on the website.

If you have questions about the Petition to Amend or staff's analysis, please contact Bruce Boyer, Compliance Project Manager at (916) 653-7181 or email at Bruce.Boyer@energy.ca.gov.

If you desire information on participating in the Energy Commission's review of the project, please contact the Energy Commission's Public Adviser's Office at (916) 654-4489 or toll free in California, at (800) 822-6228. The Public Adviser's Office can also be contacted via email at publicadviser@energy.ca.gov.

News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Enclosure

RUSSELL CITY ENERGY CENTER PROJECT (01-AFC-7C)
PETITION TO AMEND THE ENERGY COMMISSION DECISION
INTRODUCTION AND SUMMARY

Prepared by: Bruce Boyer, CPM

INTRODUCTION AND SUMMARY

On November 8, 2012, Russell City Energy Company, LLC, owner of the Russell City Energy Center (RCEC or Applicant), filed a Petition to Amend with the California Energy Commission (Energy Commission) to modify the Energy Commission's Final Decision (Commission Decision) for the RCEC project. RCEC requested to bifurcate the Air Quality portion of the amendment on December 20, 2012. On February 13, 2013 a request to change the **VIS-10** portion of the amendment was received. Energy Commission staff received an addendum to the November 8 submittal that requested modification of **AQ-SC12** and **HAZ-5**. Commission staff (staff) prepared an analysis of these proposed changes, and a copy is enclosed for your information and review.

The proposed modifications would (1) modify Condition of Certification **VIS-2** to allow onsite landscape planting in the first optimal planting season following commercial operation; (2) delete Condition of Certification **VIS-9** (trailside improvements); (3) modify Condition of Certification **VIS-10** to provide alternative offsite visual enhancement measures; (4) make certain non-substantive clarifications to various **AIR QUALITY** Conditions of Certification; and (5) modify Condition of Certification **HAZ-5** to allow a setback of less than 50 feet between the sulfuric acid tank and any combustible or flammable materials if (a) the Chief Building Official (CBO) approves the design and construction of a physical barrier or firewall that is consistent with applicable fire prevention standards; and (b) a physical barrier or firewall is constructed and maintained consistent with the CBO's specifications and approved by the Energy Commission Compliance Project Manager.

Staff's analysis of the request to modify **VIS-10** will be published at a later date.

DESCRIPTION AND NECESSITY OF THE PROPOSED MODIFICATIONS

Various Air Quality modifications to Conditions of Certification will make certain clarifications and administrative amendments to provisions governing monitoring and initial source testing and to conform with the corresponding conditions in the Authority to Construct air permit issued by BAAQMD;

Changes to the Air Quality Conditions of Certification are necessary to make clarifications in certain monitoring and testing requirements and assure consistency between the project's Energy Commission license and the conditions of the ATC permit. Certain administrative changes are needed to specify how monitoring and testing for compliance with the applicable emissions limits will be conducted. The necessity for these proposed changes could not be anticipated at the time when the project was approved by the Commission because the need for clarification did not arise until the data acquisition system (DAS) that will be used to monitor compliance with applicable requirements was being designed and its programming logic established by the

construction contractor and equipment vendors. Other changes, such as the need for additional time to complete source testing, were not known until the sequencing of the commissioning process was established by the construction contractor. RCEC did not know at the time the project was approved, that certain administrative amendments to the Air Quality Conditions of Certification would be needed to clarify certain monitoring and testing requirements and assure consistency with the corresponding conditions of the ATC.

The revision to the Condition of Certification **VIS-2** for onsite landscaping changes the timeframe for onsite planting to a time when onsite construction activities will not harm newly planted trees and vegetation.

On November 17, 2006, RCEC filed a petition with the Energy Commission to move the location of the project 1,300 feet northwest of the site location approved by the Energy Commission in September 2002. This petition to move the location was approved by the Energy Commission on September 26, 2007. Condition of Certification **VIS-9** (trailside improvements), had been proposed in 2002 because the project at the location certified in 2002 would have blocked the view of Mt. Diablo from the Hayward Shoreline Interpretative Center. However, subsequent to the 2002 Decision, the project owner relocated the project to a location which no longer blocked the view of Mt. Diablo from the Center. Therefore, the project owner maintains that **VIS-9** is no longer necessary.

The proposed modification of Condition of Certification **HAZ-5** would allow the storage, usage, and transportation of combustible or flammable materials within less than 50 feet of the sulfuric acid tank if (a) the Chief Building Official (CBO) approves the design and construction of a physical barrier or firewall that is consistent with applicable fire prevention standards; and (b) a physical barrier or firewall is constructed and maintained consistent with the CBO's specifications and approved by the Energy Commission Compliance Project Manager.

STAFF'S ANALYSIS OF THE PROPOSED PROJECT CHANGES

Energy Commission technical staff has reviewed the Petition to Amend for potential environmental effects and consistency with applicable LORS. Staff has determined that the technical or environmental areas of biological resources, cultural resources, facility design, noise resources, land use, paleontological resources, public health, geological hazards, water resources, traffic and transportation, transmission line safety and nuisance, transmission system engineering, waste management, worker safety & fire protection, and socioeconomics are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS. **Table 1** summarizes staff's review.

Staff has reviewed the petition and assessed the impacts of the proposed modifications on environmental quality, public health and safety, and proposes revisions to the Commission Decision and existing conditions of certification **VIS-2**, **HAZ-5**, **AQ-10**, **AQ-11**, **AQ-12**, **AQ-19**, **AQ-20**, **AQ-22**, **AQ-23**, **AQ-26**, **AQ-27**, **AQ-29**, **AQ-30**, **AQ-31**, **AQ-32**, **AQ-33**, **AQ-34**, **AQ-42**, **AQ-44**, **AQ-45** and **AQ-SC13**. Staff also proposes to delete conditions of certification **VIS-9** and **AQ-SC12**.

Staff has determined that with the adoption of the attached Air Quality conditions of certification, the project would remain in compliance with all applicable laws, ordinances, regulations, and standards (LORS).

Staff concludes that the proposed change to **HAZ-5** does not pose a significant risk of accidental sulfuric acid release and that the reduced separation distance between the sulfuric acid tank and the nearby transformers does not violate the intent of **HAZ-5**, nor does it create a significant risk of public exposure to a toxic sulfuric acid release.

Staff has concluded that the proposed modifications to the identified visual resource Conditions of Certification **VIS-2** and **VIS-9** would not result in a significant adverse impact pertaining to “aesthetics” according to CEQA and the CEQA guidelines and would not cause the project to be inconsistent with applicable LORS that pertain to physical and visible aesthetics, and the preservation and protection of landscape components.

It is staff’s opinion that, with the implementation of the revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS).

Staff recommends approving the modifications and deletions for the above mentioned Air Quality, Hazardous Material and Visual Resources Conditions of Certification.

**EXECUTIVE SUMMARY Table 1
SUMMARY OF TECHNICAL AREA RESPONSE TO PETITION**

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New, Revised, or Removed Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality			X	X
Biological Resources	X			
Cultural Resources	X			
Hazardous Materials Management			X	X
Facility Design	X			
Noise Resources	X			
Land Use	X			
Paleontological Resources	X			
Public Health	X			
Geological Hazards	X			
Water Resources	X			
Traffic and Transportation	X			

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New, Revised, or Removed Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Transmission Line Safety & Nuisance	X			
Transmission System Engineering	X			
Visual Resources			X	X
Waste Management	X			
Worker Safety & Fire Protection	X			
Socioeconomics	X			

*There is no possibility that the modifications may have a significant effect on the environment and the modification will not result in a change or deletion of a condition adopted by the commission in the final decision or make changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards (lors) (20 cal. Code regs., § 1769 (a) (2))

RUSSELL CITY ENERGY CENTER (01-AFC-7C)

Addendum to the Petition for Modification No. 4 Request to Amend Condition of Certification HAZ-5

Analysis for Technical Sections: Hazardous Materials Management and Worker-Safety/Fire Protection

Prepared by: Geoff Lesh

April 5, 2013

INTRODUCTION

The proposed changes to the limitations for storage, use, and transportation of combustible and flammable materials are an amendment to Condition of Certification **HAZ-5** of the Russell City Energy Center Project approved in 2007.

Condition of Certification **HAZ-5** requires that a minimum distance of 50 feet be maintained between combustible or flammable materials and the sulfuric acid tank. This condition is intended to protect against the potential release of sulfuric acid through volatilization in the event of fire. In order to provide greater flexibility in the layout and design of the project, while maintaining the necessary precautions to protect from the risk of fire, the project owner requests that Condition of Certification **HAZ-5** be modified to allow a setback of less than 50 feet between the sulfuric acid tank and any combustible or flammable materials if (a) the CBO approves the design and construction of a physical barrier or firewall that is consistent with applicable fire prevention standards; and (b) a physical barrier or firewall is constructed and maintained consistent with the CBO's specifications.

Because changing locations and proximities of combustible materials could affect fire protection provisions at the facility, Staff also reviewed the proposed change to **HAZ-5** for potential impacts in the technical area of **Worker-Safety/Fire Protection**, and determined that it would have no negative impact.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

No LORS applicable to the project have changed since the Commission Decision was published in 2007.

ANALYSIS

Staff has reviewed the petition for potential environmental effects and consistency with applicable LORS.

The proposed change to **HAZ-5** does not pose a significant risk of accidental sulfuric acid release. There is no code requirement for a separation distance of 50 feet. The original basis for the 50 foot setback of sulfuric acid from combustible materials was conservatively determined by Staff to avoid the potential mixing of sulfuric acid with such combustible materials and subsequent combustion resulting in toxic release of

sulfuric acid or acidic byproducts of combustion. The proposed modification to **HAZ-5** would allow for combustibles to be stored, used, or transported within distances of less than 50 feet only when a suitable fire wall has been installed to prevent line-of-sight radiant heat transfer to the acid storage tank from the combustible materials should they catch fire.

In the present case, at the Russell City facility, due to space constraints, there is a need to have some supplemental electrical transformers, which are sealed but contain combustible mineral oil, closer than 50 feet from the sulfuric acid storage tank. While sulfuric acid could be volatilized by over-heating of a storage tank, in the present case there is not sufficient combustible material contained within the transformers in question to heat the large amount of sulfuric acid in the nearby storage tank. Both the sulfuric acid storage tank and transformers have independent catchment basins that prevent migration of spilled material. The existing safety procedures to avoid introduction of sulfuric acid to the oil water separation system also provide for reduced risk of accidental mixing. The addition of a fire wall separating the transformers from the sulfuric acid storage tank will provide substantial thermal isolation of the sulfuric acid tank in the event of a transformer fire involving their mineral oil contents. Staff concludes that the reduced separation distance between this sulfuric acid tank and the nearby transformers does not violate the intent of **HAZ-5** nor does it create a significant risk of public exposure to a toxic sulfuric acid release. Staff also concludes that the proposed change does not negatively impact fire prevention/protection at the facility.

Staff therefore, recommends approval of the proposed amendment.

CONCLUSIONS AND RECOMMENDATIONS

Given the low probability of failure of transformers and storage tanks built and operated to modern codes and standards, and the low consequences likely to result from any such failures, staff believes that the potential for impact on the public due to the proposed change in Condition of Certification **HAZ-5** is insignificant for both of the technical areas of **Hazardous Materials Management** and **Worker-Safety/Fire Protection**. Staff therefore proposes that the proposed modification to Condition of Certification **HAZ-5** be adopted.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Accordingly, the project owner requests that the following modification to HAZ-5 be added to Amendment No. 4.

HAZ-5 is modified with the following wording addition shown in **bold/underline**.

HAZ-5 The project owner shall ensure that no combustible or flammable material is stored, used, or transported within 50 feet of the sulfuric acid tank, **or within less than 50 feet, provided the project owner constructs or installs a physical barrier between the sulfuric acid tank and the location of any combustible or flammable material that meets design and construction requirements established by the California Building Code, as verified by the CBO.**

Verification: At least sixty (60) days prior to receipt of sulfuric acid on-site, the project owner shall provide to the CPM for review and approval copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material and the route by which such materials will be transported through the facility.

REFERENCES

Russell City Energy Center Amendment No. 1 Final Commission Decision (01-AFC-7C), October 2007. Docketed October 2, 2007.

Russell City Energy Company, LLC. Russell City Energy Center Petition to Amend Commission Decision for Russell City Energy Center (Amendment No. 4) (01-AFC-7C). Docketed November 8, 2012.

Email communication from Allison Bryan (for Calpine) to Bruce Boyer (Energy Commission CPM) regarding proposed changes to HAZ-5., April 3, 2013

RUSSELL CITY ENERGY CENTER (01-AFC-7C)
Request to Amend Conditions of Certification VIS-2, VIS-9, and VIS-10

VISUAL RESOURCES
Mark R. Hamblin

AMENDMENT REQUEST

On November 8, 2012, Russell City Energy Company, LLC filed a Petition to Amend the Commission Decision for the Russell City Energy Center (Amendment No. 4) to do the following: modify the wording in Conditions of Certification **VIS-2** and **VIS-10**, and delete Condition of Certification **VIS-9**.

BACKGROUND

In 2001 Calpine/Bechtel Joint Development proposed to build a 600 megawatt natural gas-fired, combined-cycle electric generating facility (Russell City Energy Center) at the intersection of Enterprise and Whitesell streets in the “Industrial Corridor” of the City of Hayward, California. The Russell City Energy Center was approved (licensed) by the Energy Commission on September 11, 2002.

The 2002 license issued for the Russell City Energy Center (project) included a visual resources Condition of Certification **VIS-2** which requires the project owner to provide landscaping on the project site. Condition of Certification **VIS-9** required trailsides improvements to mitigate for the original project’s blocking of the public view of Mt. Diablo from the Hayward Shoreline Interpretive Center in the Hayward Regional Shoreline, west of the City of Hayward; and, Condition of Certification **VIS-10** a requirement for an off-site landscaping plan that included the planting of trees along the west side of industrial and business park complexes and warehouses that line the Hayward Regional Shoreline. Conditions of Certification **VIS-2** and **VIS-9** were subsequently amended in Russell City Energy Center Amendment No. 1, October 2007.

For various reasons, the project owner was not able to construct the facility on the approved site. A succeeding owner, Russell City Energy Company, LLC proposed to build the same facility with modifications in layout and associated equipment on a site on Depot Road 1,300 feet northwest of the approved location. The Energy Commission approved the new power plant location and redesign in October 2007.

On November 8, 2012, Russell City Energy Company, LLC filed a fourth Petition to Amend the Commission Decision for the Russell City Energy Center that included the following:

- modify Condition of Certification **VIS-2** to allow onsite landscaping to be planted after the start of commercial operation;
- delete Condition of Certification **VIS-9**; and,
- modify Condition of Certification **VIS-10** to allow in addition to the planting of trees, other plantings (e.g., bushes, shrubs, grasses), the installation of non-plant related

landscaping visual improvement items (e.g., masonry work, soil berms, slat inserts in fences), and the use of surface treatments (e.g., painting) on buildings and structures on neighboring properties to be completed 18 months after the start of commercial operation; and, to allow the use of planter containers.

See **Visual Resources Figure 1** – Google Earth Image Showing Location of the Russell City Energy Center and the Hayward Shoreline Interpretive Center, **Visual Resources Figure 2** – Aerial View of Russell City Energy Center Under Construction, **Visual Resources Figure 3** -View of Russell City Energy Center Under Construction in the City of Hayward “Industrial Corridor” from San Francisco Bay Trail in the Hayward Regional Shoreline, and **Visual Resources Figure 4** – View of the “Industrial Corridor” South of the Russell City Energy Center from San Francisco Bay Trail.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS COMPLIANCE

No federal, state or local government laws, ordinances, regulations and standards (LORS) pertaining to physical and visible aesthetics, and the preservation and protection of landscape components are affected by the proposed changes to the Energy Commission's visual resources conditions of certification.

ANALYSIS

This analysis does not address the project owner's request to modify Condition of Certification **VIS-10**. Staff's analysis of the request to modify **VIS-10** will be published at a later date. Staff is requesting additional information from the project owner regarding feasible alternatives to the original (2002) offsite landscaping requirement. Information at the time of the original licensing of the project indicated that the project owner's offsite landscaping proposal was feasible. Recent information indicates an unwillingness of current landowners to accept landscaping on their properties and significant limitations for landscaping in the original offsite locations.

PROPOSED WORDING MODIFICATION TO CONDITION OF CERTIFICATION VIS-2

Condition of Certification **VIS-2** as amended in Amendment No. 1 requires the project owner to provide landscaping on the project site. The proposed revision to the condition for onsite landscaping changes the timeframe for planting to after the start of commercial operation when onsite construction activities will not harm the planting of new trees and vegetation. The project owner indicates under their current schedule for commercial operation, **VIS-2** requires trees to be planted near major buildings, structures and equipment (e.g., cooling towers) while they are under construction.

The project owner requests a modification to Condition of Certification **VIS-2** to allow onsite landscaping to be completed by the first optimal season after the start of

commercial operation. The optimal season for planting is defined as occurring in Spring (March through June) and Fall (September through November).

Staff has proposed wording in **VIS-2** that the onsite landscaping be completed within 90 days of the commercial operation date. The delay in planting the landscaping would have a negligible impact on the effectiveness of the mitigation.

The requested changes to Condition of Certification **VIS-2** specific to the timing of the planting of onsite landscaping will not cause a significant effect on the environment for the purposes of the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

PROPOSED DELETION OF CONDITION OF CERTIFICATION VIS-9

When the Russell City Energy Center was originally licensed in 2002, the power plant was sited at a location where “it would substantially block the view of Mt. Diablo from the Hayward Shoreline Interpretive Center” (Russell City Energy Center Project Final Staff Assessment, June 2002, p. 4.11-18). To mitigate the blocking of the view of Mt. Diablo from the Interpretive Center, the project owner agreed “to install benches, an information kiosk, information panels, and free-of-charge viewsopes at two nearby locations on a Shoreline trail where views toward Mt. Diablo would not be affected by the project” (Russell City Energy Center Amendment No. 1 Final Commission Decision, October 2007, p. 195). See **Visual Resources Figure 5** – Original Project’s KOP 2 – Existing View from Hayward Shoreline Interpretive Center Looking Northeast (2002).

During November 2006, Russell City Energy Company, LLC requested a change to their license to relocate the Russell City power plant 1,300 feet from its original approved site. Though the project was being relocated, the project owner remained willing to provide the trailside improvements identified in Condition of Certification **VIS-9**; therefore **VIS-9** was retained by staff in the staff assessment prepared for Amendment No. 1. Staff stated in the staff assessment “Unlike the original project, the relocated project would be outside of the direct line-of-sight of Mt. Diablo from the Hayward Regional Shoreline Interpretive Center” (Russell City Energy Center Staff Assessment Amendment No. 1, June 2007, p. 4.12-6). See **Visual Resources Figure 3**.

In October 2007, the Energy Commission adopted Russell City Energy Center Amendment No. 1. The Final Commission Decision for Amendment No. 1 states the following:

“At its original location, the project would block views of Mt. Diablo from KOP 2, the Hayward Regional Shoreline Interpretive Center. To mitigate the impact, Condition **VIS-9** required the project owner to install benches, an information kiosk, information panels, and free-of-charge viewsopes at two nearby locations on a Shoreline trail where views toward Mt. Diablo would not be affected by the project. At its new location, the amended project will no longer create the visual impact. The Applicant remains willing to provide the amenities, however, and proposes clarifying amendments to Condition

VIS-9. Staff agrees with the proposal. (Ex. 100, p. 4.12-8.)” (Russell City Energy Center Amendment No. 1 Final Commission Decision, October 2007, p. 195).”

The Hayward Area Recreation and Park District (HARD) maintains and operates the Hayward Regional Shoreline for the East Bay Regional Park District. The project owner has informed staff that the HARD Board of Directors has declined to enter into an agreement with them to provide the identified trail improvements required in **VIS-9**. Without HARD Board approval, the project owner cannot complete **VIS-9**. Since **VIS-9** is no longer required to mitigate a significant visual impact, the project owner has requested it to be deleted.

Deletion of Condition of Certification **VIS-9** will not create a significant aesthetic effect on the environment for the purposes of CEQA and the CEQA Guidelines. The original CEQA nexus that resulted in Condition of Certification **VIS-9** no longer exists. The project owner redesigned and relocated the Russell City Energy Center, so that it is outside of the direct line-of-sight of Mt. Diablo from the Hayward Regional Shoreline Interpretive Center (KOP 2).

HARD Correspondence

The California Energy Commission received a letter from John Gouveia, the General Manager of HARD, docketed December 31, 2012 (01-AFC-7c/TN# 68991), regarding the project owner’s current petition to amend. The letter includes the following:

“In 2010 and 2011, HARD attempted to negotiate with Calpine to mitigate the impacts of the energy center on Shoreline Park and its visitors. HARD proposed an agreement (see Attachment D, letter dated November 3, 2010), that would have better mitigated the impacts, but was not accepted by the RCEC (*Russell City Energy Center*). Now, the RCEC wants VIS-9 deleted. How will the visual impacts on HARD properties from the energy center be mitigated? HARD would also request that the CEC require the RCEC to complete Environmental Impact Reports (EIR) on all FAA requirements as they impact the Bay Trail and shoreline habitats and insure the implementation of the mitigation measures. The EIR should at a minimum look at lighting, exhaust plume and air traffic relocation as they all impact the HARD Shoreline Park and our habitats.

These matters are of great concern to HARD and are the reason why our Board of Directors have chosen not to enter into an agreement for the **VIS-9** requirements and have made it quite clear to staff that they will not do so until these questions are answered. We ask that the CEC *deny* the request to delete this requirement and requests that the CEC direct RCEC to return to the table and work with HARD to amend **VIS-9** and other requirements to address the above issues so that a satisfactory mitigation plan may be adopted by the CEC.”

As discussed in the Final Commission Decision for Amendment No. 1, visual impacts to the Shoreline Park are mitigated by Visual Resources Conditions of Certification **VIS-2** (onsite landscaping), **VIS-3** (surface treatment), and **VIS-10** (offsite landscaping). **VIS-9** was specifically intended to address the original project's blocking of the view of Mt. Diablo from the Interpretive Center. With the relocation of the project, **VIS-9** is no longer necessary. Other concerns raised by HARD regarding lighting, exhaust plumes, and air traffic relocation were addressed in the Amendment No. 1 proceeding and are outside the scope of the current amendment before the Commission.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the project owner's Petition to Amend the Commission Decision and concludes the proposed changes to Conditions of Certification **VIS-2** and **VIS-9** would not result in a significant adverse impact pertaining to "aesthetics" according to CEQA and the CEQA Guidelines.

The proposed changes to **VIS-2** and **VIS-9** would not cause the project to be inconsistent with applicable LORS that pertain to physical and visible aesthetics, and the preservation and protection of landscape components. Staff recommends the proposed modifications to Conditions of Certification **VIS-2** and **VIS-9**, below.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

VIS-2 is modified with the following wording shown in **bold/underline** and ~~strikeout~~.

VIS-2 ~~Prior to the first turbine roll~~ **The** project owner shall prepare and implement an approved onsite landscape plan to screen the power plant from view to the greatest extent possible. Suitable irrigation shall be installed to ensure survival of the plantings. Landscaping shall be installed consistent with the City of Hayward zoning ordinance and with the U.S. Fish and Wildlife Service's recommendations, if applicable, that plants not provide opportunities for perching by birds of prey.

Protocol: The project owner shall submit a landscape plan to the City of Hayward for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the City's comments. The plan shall include, but not be limited to:

- 1) A detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives.
- 2) An installation schedule. The project owner shall not implement the landscape plan until the project owner receives approval of the plan from the CPM. ~~The planting must be completed by the start of commercial operation, and the planting must occur during the optimal planting season.~~
- 3) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and

- 4) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

Verification: ~~Prior to the first turbine roll~~ **At** least 60 days prior to installing the landscaping, the project owner shall submit the landscape plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM would approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall complete installation of the landscaping within 90 days of the commercial operation date. The project owner shall notify the CPM within seven days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

VIS-9 deleted in its entirety.

~~**VIS-9** Prior to commercial operation, the project owner shall install new trailside amenities in the Hayward Regional Shoreline that may include, benches, free-of-charge viewscopes, and an information kiosk and set of low panels for the display of interpretive information related to Mt. Diablo and other important elements of the regional setting. The project owner shall work with the Hayward Area Recreation and Parks District (HARD) to develop the final designs for these facilities. As part of this measure, the project owner shall provide the HARD with an adequate budget that would allow its Staff to research and prepare the interpretive materials to be mounted on the kiosk and panels. The project owner shall determine the precise location of the trailside amenities in consultation with the CPM and the HARD.~~

~~**Verification:** Within 12 months after the start of HRSG construction, the project owner shall submit a final design plan for the trailside amenities to the HARD for review and comment and to the CPM for review and approval. If the CPM notifies the project owner that revisions are needed before the CPM would approve the plan, within 30 days of receiving that notification the project owner shall submit a revised plan to the CPM.~~

~~Not less than thirty 30 days prior to the first turbine roll, the project owner shall notify the CPM that the trailside amenities are ready for inspection.~~

RESPONSE TO AGENCY AND PUBLIC COMMENT

STAFF RESPONSE TO CITY OF HAYWARD DEPARTMENT OF PUBLIC WORKS – UTILITIES & ENVIRONMENTAL SERVICES letter dated January 17, 2013 (docketed January 23, 2013, 01-AFC-7c/TN #69285)

1. City of Hayward comment first page, third paragraph of letter regarding **VIS-9**.

Staff Response – See staff discussion under Proposed Deletion of Condition of Certification **VIS-9**.

2. City of Hayward comment second page, first paragraph of letter regarding **VIS-10**.

Staff Response – This analysis does not address the project owner's request to modify Condition of Certification **VIS-10**. Staff's analysis of the request to modify **VIS-10** will be published at a later date.

3. City of Hayward comment second page, second paragraph states the following:

"It is important to note that VIS-9 and VIS-10 in their present forms reflects a significantly reduced obligation on the project, and are far less costly to implement compared to the original plan to construct and architectural shield and artwork. This architectural treatment would have purportedly cost several million dollars."

Staff Response – Staff agrees the deletion of **VIS-9** would result in an expenditure not being made by Calpine. Staff's analysis of the request to modify **VIS-10** will be published at a later date.

The Hayward City Council voted unanimously to allow Calpine to eliminate/remove the architectural treatment, "*the wave*," from the Russell City Energy Center project. See the October 11, 2005 Minutes of Special Joint Meeting of the City Council/Redevelopment Agency of the City of Hayward and Agenda Report for Resolution 05-125 "Resolution Authorizing the Execution of a Cooperation and Option Agreement with the Russell City Energy Center, LLC."

The California Energy Commission in its Final Commission Decision for Russell City Energy Center Amendment No. 1, October 2007 approved the elimination of the architectural treatment originally proposed for the project. The Final Commission Decision states the following:

"... the treatment was included at the behest of the City of Hayward in order to achieve consistency with City General Plan provision encouraging enhancement of entrances to the City with 'distinctive planting, signing or architecture.' The Staff Assessment also reports a subsequent change of position on the City's part. In an agenda report to the City Council in October 2005, City staff supported Calpine's request to eliminate the 'Wave' structure."

STAFF RESPONSE TO LEAGUE OF WOMEN VOTERS-EDEN AREA letter dated March 21, 2013 (docketed March 22, 2013, 01-AFC-7c/TN #70024)

4. League of Women Voters comment page 2; item number 1 regarding proposed modification to condition of certification **VIS-2** and **VIS-10**.

Staff Response – VIS-2 pertains to the timing of the completion of the installing/planting of landscaping on the project site. **VIS-2** is being modified to include wording that states the project owner shall complete installation/planting of the landscaping within 90 days of the commercial operation date.

This analysis does not address the project owner's request to modify Condition of Certification **VIS-10**. Staff's analysis of the request to modify **VIS-10** will be published at a later date.

5. League of Women Voters comment page 3; item number 2 regarding opposing the deletion of **VIS-9** and that substantial additional mitigation is needed.

Staff Response – See staff discussion under Proposed Deletion of Condition of Certification **VIS-9**.

REFERENCES

California Energy Commission/Bruce Boyer, Compliance Project Manager. Email to John Gouveia, General Manager of Hayward Area Recreation and Park District, response to the Board of Directors questions regarding Energy Commission Conditions of Certification for the Russell City Energy Center dated August 15, 2012. Docketed January 3, 2013 (01-AFC-7c/TN #69031).

Calpine Corporation/Allison Bryan, EHS Manager. Email to Mark Hamblin, Planner II, Photograph of Trees along Warehouse Bordering Hayward Regional Shoreline dated January 31, 2013.

City of Hayward. "Minutes of Special Joint Meeting of the City Council/Redevelopment Agency of the City of Hayward," City of Hayward, CA dated October 11, 2005.

Hayward Area Recreation And Park District/John Gouveia, General Manager. Letter to California Energy Commission expressing the HARD Board of Directors concerns regarding Russell City Energy Center's Petition To Amend, dated December 28, 2012. Docketed December 31, 2012 (01-AFC-7c/TN #68991).

Russell City Energy Center Amendment No. 1 Final Commission Decision (01-AFC-7c), October 2007. Docketed October 2, 2007.

Russell City Energy Center Commission Decision (01-AFC-7) July 2002. Docketed September 11, 2002.

Russell City Energy Center, LLC. Russell City Energy Center Application For Certification (01-AFC-7), July 2001.

Russell City Energy Center Project Final Staff Assessment (01-AFC-7), June 2002.
Docketed June 10, 2002.

Russell City Energy Center Staff Assessment Amendment No. 1 (01-AFC-7c), June 2007. Docketed June 29, 2007.

Russell City Energy Company, LLC. Russell City Energy Center Petition to Amend Commission Decision for Russell City Energy Center (Amendment No. 4) (01-AFC-7C). Docketed November 8, 2012.

VISUAL RESOURCES - FIGURE 1

Russell City Energy Center, Amendment 4 - Google Earth Image Showing Location of the RCEC, and Hayward Shoreline Interpretive Center



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 2

Russell City Energy Center, Amendment 4 -Aerial View of Russell City Energy Center Under Construction



VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: Calpine Photo -January 2013

VISUAL RESOURCES - FIGURE 3

Russell City Energy Center, Amendment 4 -View of Russell City Energy Center Under Construction in the City of Hayward "Industrial Corridor" from San Francisco Bay Trail in the Hayward Regional Shoreline



VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: Staff Photo -2/28/2013

VISUAL RESOURCES - FIGURE 4

Russell City Energy Center, Amendment 4 - View of the "Industrial Corridor" South of the Russell City Energy Center from San Francisco Bay Trail



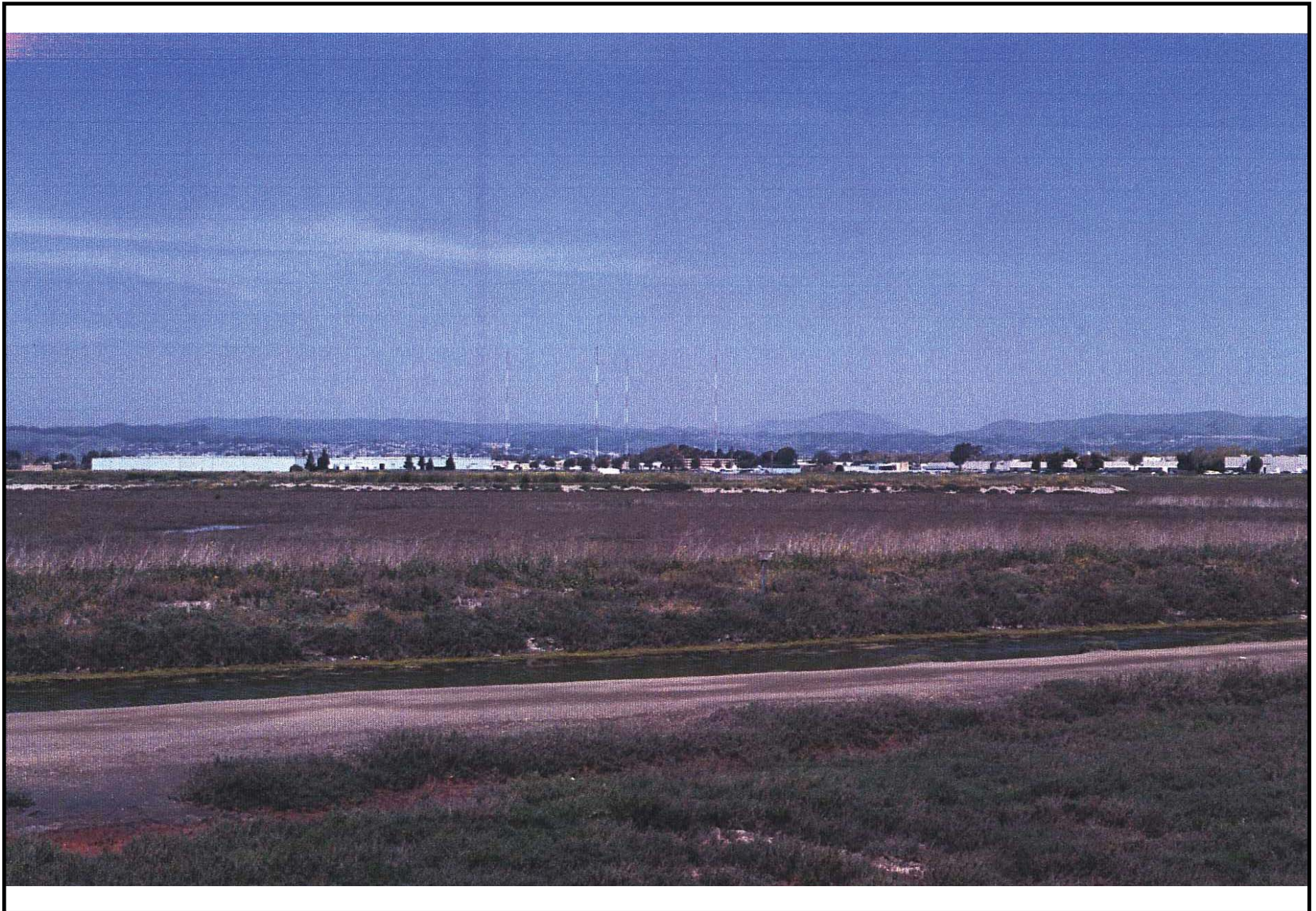
VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: Staff Photo -2/28/2013

VISUAL RESOURCES - FIGURE 5

Russell City Energy Center, Amendment 4 - Original Project's KOP 2 - Existing View from Hayward Shoreline Interpretive Center Looking Northeast



VISUAL RESOURCES

RUSSELL CITY ENERGY CENTER (01-AFC-7C)

Amendment No. 4 and Addendum

Air Quality Analysis
Wenjun Qian, Ph.D., P.E.

SUMMARY OF CONCLUSIONS

Staff finds that with the adoption of the attached conditions of certification, the modified Russell City Energy Center project (RCEC or project) would conform with applicable federal, state and Bay Area Air Quality Management District (BAAQMD or District) air quality laws, ordinances, regulations and standards (LORS), and that the modified RCEC would not result in significant air quality-related impacts.

INTRODUCTION

The RCEC project was certified by the Energy Commission in September 2002, and received an amended approval by the Energy Commission in October 2007. The RCEC project was certified as a nominal 600 megawatts (MW) natural gas-fired, combined cycle electric generating facility located in Hayward, California. The Energy Commission approved two petitions to extend commencement of the construction deadline on August 29, 2007 and on July 30, 2008, respectively. On August 11, 2010, the Energy Commission approved Amendment No. 2, which made modifications to the Air Quality conditions of certification to conform with the project's federal Prevention of Significant Deterioration (PSD) permit and enable the renewal of the Authority to Construct (ATC) issued by the Bay Area Air Quality Management District (BAAQMD or District). Construction of RCEC began in September 2010.

On November 8, 2012, the Russell City Energy Company, LLC (project owner) filed amendment request No. 4 (RCEC 2012) with the Energy Commission to extend the timing for conducting initial source testing and to make certain non-substantive clarifications and administrative amendments to provisions governing monitoring and initial source testing and to conform with the ATC issued by BAAQMD. Details are provided in the staff analysis.

On March 20, 2013, the project owner filed an addendum to the amendment request No. 4 (RCEC 2013) to change the emission reduction credits (ERCs) obligation in Condition of Certification **AQ-SC12** to correct an oversight and to ensure consistency with **AQ-23**.

The project owner also requests to modify **VIS-2** for onsite landscaping, delete **VIS-9** for trailside improvements, modify **VIS-10** to provide alternative offsite visual enhancement measures, and change **HAZ-5** regarding the location of storage of combustible or flammable materials. These modifications will not have an impact on Air Quality thus will

not be analyzed in this section. This analysis focuses upon the air quality issues in amendment No. 4 and addendum.

LAWS, ORDINANCES, REGULATION, AND STANDARDS (LORS) COMPLIANCE

The 2002 Decision (CEC 2002b), 2007 Amended Decision (CEC 2007b) and 2010 Amended Decision (CEC 2010d) certifying the RCEC concluded that the project complied with all applicable LORS. The District reconsidered the applicability of the following standards to RCEC in their Analysis of Requested Change of Conditions (BAAQMD 2013) for the current amendment No. 4 and addendum.

40 CFR PART 60 SUBPART KKKK

In the 2007 Amended Final Determination of Compliance (FDOC) for the project (BAAQMD 2007), the District stated that the gas turbines were subject to 40 CFR Part 60 Subpart GG “Standards of Performance for Stationary Gas Turbines” and the heat recovery steam generators (HRSGs) were subject to 40 CFR Part 60 Subpart Da “Standards of Performance for Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978”.

On July 6, 2006, the U.S. EPA promulgated revised new source performance standards (NSPS) for stationary combustion turbines (40 CFR Part 60 Subpart KKKK) applicable to stationary combustion turbines on which construction, modification or reconstruction is commenced after February 18, 2005. The new standards in Subpart KKKK reflect advances in turbine design and nitrogen oxide (NO_x) emission control technologies since the standards for these units were originally promulgated in 1979 in Subpart GG of 40 CFR Part 60. The new standards also require the use of lower sulfur fuels.

The District reviewed the U.S. EPA applicability determination index from other projects and determined the RCEC facility is subject to 40 CFR Part 60 Subpart KKKK, not Subpart GG or Subpart Da (BAAQMD 2013). Subpart KKKK emission limitation is more stringent than those in Subpart Da and Subpart GG. The NO_x emission limitation was 1.6 pounds of NO_x per megawatt-hour (lb NO_x/MWh) in Subpart Da and lowered to 0.43 NO_x/MWh in Subpart KKKK. The NO_x limitation in Subpart GG was 100 parts per million, volumetric dry (ppmvd) NO_x, @ 15% oxygen (O₂) and it was lowered to 15 ppm NO_x as NO₂ @ 15% O₂.

Air Quality Table 1 shows the emission limitations in Subparts KKKK from BAAQMD analysis of current amendment request (BAAQMD 2013).

Air Quality Table 1
Emission Limitations in 40 CFR Part 60 Subpart KKKK Applicable to RCEC

Source	Requirement	Emission Limitation
Gas Turbines	Subpart KKKK §60.4320 (NO _x)	0.43 lb NO _x /MW-hr, or 15 ppm NO _x as NO ₂ @ 15%O ₂ ;
	§60.4330(sulfur dioxide - SO ₂)	0.9 lb SO ₂ /MW-hr, or 0.06 lb SO ₂ /MMBtu maximum
		No carbon monoxide (CO) limit in Subpart KKKK No particulate matter (PM) limit in Subpart KKKK

The following sections of Subpart KKKK also apply to RCEC:

Section 60.4340(b)(1) requires continuous emissions monitors for NO_x with NO_x initial and annual performance tests complying with Section 60.4405 relative accuracy test audit (RATA) testing.

Section 60.4365(a) exempts the facility from SO₂ monitoring by requiring a contract for natural gas with 20 grains of sulfur or less per 100 standard cubic feet. The facility will use Public Utility Commission (PUC) regulated natural gas and be conditioned to use natural gas with 1 grain of sulfur or less per 100 standard cubic feet (PG&E Gas Rule 21 Section C).

Section 60.4375 requires submittal of reports of excess emissions and monitoring of downtime for all periods of unit operation, including startup, shutdown, and malfunction.

40 CFR PART 63 SUBPART ZZZZ

In the 2007 Amended FDOC (BAAQMD 2007), the District stated that the fire pump engine was subject to the New Source Performance Standard for Compression Ignition Internal Combustion Engines (40 CFR 60 Subpart IIII). The District has now determined that the fire pump engine is also subject to 40 CFR Part 63 Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" (BAAQMD 2013). This subpart was inadvertently left out of the 2007 Amended FDOC (BAAQMD 2007). Per Section 63.6590(c), the fire pump diesel engine will meet the requirements of this subpart by meeting the requirements of 40 CFR Part 60 Subpart IIII.

SETTING

Since the 2010 staff analyses (CEC 2010a, CEC 2010b) of the proposed changes in Amendment No. 2, the area's attainment status for federal short-term NO₂ Ambient Air

Quality Standard (AAQS) has changed. On February 17, 2012, U.S. EPA designated all of California as “unclassifiable/attainment” for the federal short-term NO₂ standard. **Air Quality Table 2** summarizes the current attainment status of the BAAQMD for various applicable state and federal Ambient Air Quality Standards. These changes do not affect the analysis and conclusions herein but are provided to depict the current setting.

Air Quality Table 2
BAAQMD Attainment Status

Pollutants	Attainment Status	
	Federal	State
Ozone	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Unclassifiable/Attainment	Attainment
SO ₂	Attainment	Attainment
PM10	Unclassified	Nonattainment
PM2.5	Nonattainment	Nonattainment

Source: ARB 2011, US EPA 2012

ANALYSIS

EXTEND THE TIMING FOR CONDUCTING INITIAL SOURCE TESTING

The project owner expects that they may not be able to complete the initial compliance tests within 90 days (or 60 days in **AQ-45**) of first fire of the gas turbines. The project owner submitted the amendment request to allow for an additional 30 days (or 60 days in **AQ-45**) to conduct the initial compliance test (up to 120 days from first fire of each gas turbine) in conditions of certification **AQ-11**, **AQ-29**, **AQ-30**, **AQ-32**, **AQ-34**, and **AQ-45**.

The project owner did not expect there to be a need for additional time (beyond 90 days) to prepare for the initial source testing until the sequencing of the commissioning process was established by the construction contractor. The commissioning of two gas turbine/heat recovery steam generator trains and the associated steam turbine is a complex series of events and the request for an additional 30 days to conduct the compliance test appears to be reasonable. The requested change would provide RCEC sufficient time to finish activities necessary to prepare for an accurate, full-load source test and would not extend the actual commissioning period.

There would be no increase in permitted emissions associated with this change of conditions request. In accordance with **AQ-9**, all emissions during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in **AQ-23**. Daily emissions during commissioning are limited by **AQ-10** and are not being changed. Worst case hourly NO_x and CO emissions during commissioning are also limited by **AQ-10** and are not being changed. The commissioning hours of each gas

turbine and HRSG train are limited to 300 hours in **AQ-7** and **AQ-8** and are not being changed. All the commissioning emission limits remain the same.

The District proposes to revise the submission date for the initial source test reports to be within 150 days of the initial startup in **AQ-11**, **AQ-29**, **AQ-30**, **AQ-31**, and **AQ-34** to ensure that the District will still have time to approve or disapprove the permit to operate within 180 days of the startup of the project. Staff also recommends corresponding update in the verifications of **AQ-32** and **AQ-33**.

CHANGES TO AQ-SC12 AND AQ-SC13

The 2002 Decision (CEC 2002b) required the project owner to mitigate for the quantity of PM10 emissions generated by the project during the fall and winter quarters when the area experiences violation of the PM10 standards, through a fireplace retrofit/woodstove replacement program. Since this is half of the year, staff proposed that the project owner mitigate the impacts of 43.21 tons per year (tpy), half the project's total annual emissions of 86.42 tpy estimated in the Final Staff Assessment (**CEC 2002a**) and incorporated into the 2002 Decision (~~CEC 2002a~~).

The annual PM10 emission limits were later revised in the 2007 Amended Decision (CEC 2007b) to 86.8 tpy, thus the emission reduction obligation for the fireplace retrofit/woodstove replacement program became 43.4 tpy (half of 86.8 tpy). Staff recommended several milestones in **AQ-SC12** for the project owner to gradually implement the fireplace retrofit/woodstove replacement program. If complete compliance with **AQ-SC12** cannot be achieved by the condition milestones, **AQ-SC13** in 2007 Amended Decision allowed the project owner to make up the wintertime PM10 milestone shortfall by providing annual PM10 or PM10 equivalent (SOx for PM10) ERCs at a ratio of 2 tons of annual PM10 or PM10 equivalent ERCs to 1 ton of wintertime PM10. PM10 equivalent ERCs can be provided by SOx-for-PM10 interpollutant trading at a ratio of 5.3 to 1.

On February 3, 2010, BAAQMD issued the federal PSD permit (BAAQMD 2010). The PSD permit provides a new Best Available Control Technology (BACT) analysis that requires lower project emission limits. On August 11, 2010, the Energy Commission approved Amendment No. 2, which modified the Air Quality conditions to conform with the federal PSD permit and enabled the renewal of the ATC issued by BAAQMD. Among those changes, **AQ-23** was amended to be consistent with the lowered emission limits from the project's gas turbines, HRSGs, cooling tower, and fire pump diesel engine. The annual PM10 emission limit was reduced from 86.8 tons to 71.8 tons. However, when **AQ-23** was updated, ~~in an administrative error~~ the 50 percent ERC obligation in **AQ-SC12** was not updated correspondingly **because of an oversight**. In the addendum to the current amendment request No. 4 (RCEC 2013), RCEC requests corrections be made in **AQ-SC12** to reduce the PM10 ERC requirement of the fireplace retrofit/woodstove replacement program from 43.4 tpy to 35.9 tpy, which is 50 percent of the currently-approved annual PM10 limit of 71.8 tpy in **AQ-23**.

On May 14, 2010, the project compliance manager at RCEC sent a notification to the Energy Commission Compliance Project Manager (CPM) stating RCEC would be unable to meet the milestones of the fireplace retrofit/woodstove replacement program as described in **AQ-SC12**. In accordance with **AQ-SC13**, RCEC would surrender 71.8 tons of PM10 or PM10 equivalent ERCs at least 60 days prior to initial startup (RCEC 2010a). Energy Commission staff reviewed and approved the letter on July 12, 2010 (CEC 2010c).

Staff believes **AQ-SC12** is obsolete because of the unsuccessful fireplace retrofit/woodstove replacement program. RCEC is going to comply with **AQ-SC13** for 100 percent of the ERCs in lieu of **AQ-SC12**. RCEC requested the changes in **AQ-SC12** because **AQ-SC13** requires “annual PM10 or PM10 equivalent (SOx for PM10) ERCs at a ratio of 2 tons of annual PM10 or PM10 equivalent ERCs to 1 ton of wintertime PM10”, while the quantity of wintertime PM10 ERCs is specified in **AQ-SC12**, which was not updated. In order to avoid future confusion, staff recommends deleting **AQ-SC12** and specifying the quantity of PM10 ERCs explicitly in **AQ-SC13** instead of referring to **AQ-SC12**.

On July 15, 2010, the project owner sent a letter to Energy Commission which identified the ERCs to be surrendered to the District at least 60 days prior to initial startup (RCEC 2010b). Based on the latest conversation between staff and project owner, the project owner will make sure the ERCs are surrendered prior to initial startup. Staff believes the verification of **AQ-SC13** causes confusion about whether the project owner should submit the list of ERCs 60 days prior to initial startup or surrender the ERCs 60 days prior to initial startup. Since the list of ERCs were already provided in 2010 and staff has already reviewed the list, staff believes “at least 60 days” should be deleted in the verification of **AQ-SC13**.

OTHER ADMINISTRATIVE CHANGES

The project owner also requested other administrative changes that are minor and non-substantive and would not modify any currently licensed limits on emissions. The District believes some of the changes are not necessary and resolved the issue with the project owner. Staff also suggests some minor changes in the conditions of certification to resolve some inconsistencies between prior Energy Commission Decisions and the District’s documents. These changes are summarized as follows:

1. The project owner requested to correct the word “and” to “through” between **AQ-19(b)** and **AQ-19(d)** in the definition for Gas Turbine Shutdown Mode. Staff confirms that **AQ-19(c)** also applies in this definition thus “and” was a typographical error. This change will make it consistent with the PSD permit.
2. The project owner requested to remove the last sentence from the gas turbine combustor tuning mode definition. This sentence stated, “The [selective catalytic reduction] SCR and oxidation catalyst are not operating during the tuning operation.” This sentence needs to be deleted since the oxidation catalyst will partially abate emissions of volatile organic compounds (VOC) and CO depending on the

temperature. The SCR is required to comply with Conditions of Certification **AQ-17** and **AQ-18** once it reaches minimum temperature.

3. The District proposes to delete the phrase “using certified continuous emissions monitors” in the first sentence of **AQ-11** for source tests because the phrase is confusing since the initial source test to demonstrate compliance with **AQ-19** will require more than the use of certified continuous emissions monitors. Staff agrees with this change.
4. The project owner proposes to add “rolling 12-month annual” in the fourth sentence of **AQ-12** to specify the duration that the average sulfur content needs to be calculated. Staff confirms that this phrase was left out inadvertently in the 2007 Amended Decision.
5. The project owner also requested a change to **AQ-19(a)** to add the phrase, “averaged over any 1-hour period” after the NO_x lb/MMBtu emission limits. The District confirms that the lb/MMBtu limits were not intended to be instantaneous limits and this makes the NO_x limits in **AQ-19(a)** consistent with CO limits in **AQ-19(c)**. Staff agrees with this change.
6. Staff found a typographical error in **AQ-19(e)** of 2010 Amended Decision that referenced “condition 30” for the ammonia source test, which should be corrected to “**AQ-29**”.
7. **AQ-19(e)** requires continuous recording of the ammonia injection rate in order to verify the ammonia emission rate. The correlation between the heat input rates, ammonia injection rates, and corresponding ammonia emission concentration is required to be determined in accordance with source test results from **AQ-29**. The 2007 Amended FDOC provided an option for the project owner to use a District-approved alternative method in addition to **AQ-29**. This option was omitted from the 2007 Amended Decision. In the current amendment request, the project owner proposed to replace the requirement of recording the ammonia inject rate and calculating the ammonia emission rate based on **AQ-29** with the use of a District-approved calculation. The District worked with the project owner to develop a method to properly determine the ammonia slip concentration emission limit of 5 ppmv. Staff believes that, when District approves the alternative method in the future, the results would be equivalent.
8. The project owner suggested to add the phrase “or shutdown” after “startup” in the first sentence of **AQ-20**. Staff confirms that **AQ-20** includes emission limits for both startup and shutdown. The phrase “or shutdown” was apparently inadvertently left out in the previous Energy Commission decisions and it should be added to **AQ-20**.
9. The project owner requested to remove the phrase “and the auxiliary boiler” at the end of **AQ-26(j)**, which requires calculating and recording “the average hourly heat input rates, corrected NO_x emission concentration, NO_x mass emission rate (as

NO₂), corrected CO emission concentration, and CO mass emission rate for each gas turbine and associated HRSG combined and the auxiliary boiler.” In the Final Staff Assessment of Amendment No. 1 (CEC 2007a), staff suggested installing an auxiliary boiler as an alternative technology to shorten startup durations and reduce startup emissions. Neither the 2007 Amended FDOC nor the PSD permit included the auxiliary boiler. The auxiliary boiler was never built and staff recommends deleting the phrase “and the auxiliary boiler” to keep the condition current.

10. The project owner proposes to correct “**AQ-22(c) thru (e)**” to “**AQ-22(d) thru (f)**” for POC, PM₁₀ and SO₂ daily emission limits in the first sentence of **AQ-27** because it was a typographical error. The District proposes to replace the word “thru” in three places in **AQ-27** with the specific conditions that “thru” stands for to make it more explicit. Staff agrees.
11. Staff found a typographical error in **AQ-27(b)** of 2007 Amended Decision that required emission calculations for “eight” sources, which should be corrected to “four” sources.
12. The project owner requested a change to **AQ-30** to clarify the source testing requirements for maximum and minimum load operation. The District confirms that the phrase “For the purposes of the testing at maximum load only,” needs to be added to the second sentence to clarify that the minimum test requirements listed were intended for maximum load only. The facility will still be required to conduct source testing at minimum load to demonstrate compliance with CO limits contained in **AQ-19(c)** and **AQ-19(d)**. Staff agrees.
13. The District proposes to correct a typographical error in **AQ-33** that referenced **AQ-30** for the sulfuric acid emissions (SAM) testing, which should be **AQ-34**. Staff agrees.
14. The project owner requested a change to **AQ-34** to clarify the frequency of the SAM testing would be annual instead of semi-annual (twice per year). Staff found annual testing was required in the 2007 Amended Final Determination of Compliance (FDOC) (BAAQMD 2007) and the PSD permit (BAAQMD 2010) but semi-annual testing was required in the 2007 Amended Decision (CEC 2007b). In addition, the 2007 Amended Decision included the sentence “After acquiring one year of source test data on these sources, the owner/operator may petition the District to reduce the test frequency to an annual basis if test result variability is sufficiently low as determined by the District.” This sentence did not exist in the 2007 Amended FDOC or the PSD permit. The District staff believes that semi-annual testing is not necessary and proposes to delete the above sentence because the facility may always submit a permit application to revise source test frequency based on actual source test results. Staff recommends updating **AQ-34** as shown below to make it consistent with the 2007 Amended FDOC and the PSD permit.

15. The District proposes to delete “S-5, or S-7” and “S-6, or S-8” in the last sentence of **AQ-42** because these were typographical errors. The District proposes to add “or” after “S-1” and after “S-2”. Staff agrees.
16. The District also proposes to change “project owner” to “owner/operator” in **AQ-10**, **AQ-19**, **AQ-20**, **AQ-22**, **AQ-23**, **AQ-26**, and **AQ-44** to be consistent with other conditions. Staff agrees.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

Staff received comments from Hayward Area Recreation and Park District (HARD), City of Hayward, and League of Women Voters of the Eden Area (LWVEA) regarding the current amendment request and notice of receipt. Summaries of the air quality comments with specific responses are provided below, and also are reflected in the analysis above.

LWVEA comments:

Comment

Air Quality standards should be strictly enforced given Calpine’s insistence on constructing this major stationary source of pollution in a non-attainment region that already suffers from too much pollution and is already overbuilt.

Staff Response

Staff agrees that the ambient air quality standards should be enforced and will be continuously enforced through compliance programs of U.S. EPA, BAAQMD, and Energy Commission.

Comments

Given these circumstances, adding another month, resulting in four months of unregulated emissions is one month too many of too much pollution.

Staff report needs to explore and discuss: “How much” unregulated emissions will be emitted during the 3 month allowed testing time and how much more is anticipated to be emitted during the additional one month requested time?

Additionally, why is additional time needed for testing when Capine actively represented (contrary to industry commentators) that the licensed conditions are achievable, such as the emission rate for PM_{2.5}?

Staff Response

Staff notes that the commissioning emissions are not unregulated or unlimited. As mentioned in the text, RCEC requests more time to prepare for and conduct the initial source test, not to increase actual commissioning emissions. Additional time is required because of the sequencing of the activities established by the construction and source testing contractors.

There would be no emissions increase in permitted emissions associated with this change of conditions request. In accordance with Condition of Certification **AQ-9**, all emissions during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in **AQ-23**. Daily emissions during commissioning are also limited by **AQ-10** and are not being changed. Worst case hourly NOx and CO emissions during commissioning are also limited by **AQ-10** and are not being changed. The commissioning hours of each gas turbine and heat recovery steam generator (HRSG) train are limited to 300 hours in **AQ-7** and **AQ-8** and are not being changed. All the commissioning emission limits remain the same.

Comment

It is unclear as to when would testing be performed, such as would testing occur during the active fall or spring semesters when the schools' outdoor sports programs are most active or during summer youth camps?

Staff Response

Most recent conversation between RCEC and staff indicated that RCEC plans to conduct first fire around May 8. The current planned commercial operation date is June 28. Thus the commissioning is expected to occur during May or June if everything goes well. Again, commissioning emissions have been analyzed by staff with respect to ambient air quality standards, and staff does not expect emissions to cause any violations of these standards.

Comment

Will testing result in noxious fumes be emitted resulting in foul smells and if so, at what distance and levels?

Staff Response

No, noxious fumes emitted from natural gas power plants during commission or operation would be negligible. In order to help detect leaks, a small amount of odorant is added to the otherwise colorless and almost odorless natural gas. Once it's combusted, the odorant would be oxidized and become odorless. Natural gas combustion is generally cleaner than coal and diesel combustion.

The BAAQMD Regulation 7-302 prohibits the discharge of odorous substances which remain odorous beyond the facility property line after dilution with four parts of odor-free air. Regulation 7-302 limits ammonia emissions to 5000 ppm. Because the ammonia slip emissions from the proposed CTG/HRSG power trains will each be limited by permit condition to 5 ppmvd @ 15% O₂, the facility is expected to comply with the requirements of Regulation 7. Staff does not expect to receive any odor complaints from a power plant like RCEC.

Comment

Will concentration levels of pollutants be such that athletic coaches or instructors of summer camps should be forewarned from conducting outdoor athletic activities?

Staff Response

No, the analyses performed by the Energy Commission and BAAQMD ensure that emissions are limited and the project will not cause violations of ambient air quality standards during commissioning or normal operations, day in and day out, for the life of the project. Typically, the commissioning activities occur before the installation of the emission control equipment, e.g., selective catalytic reduction (SCR) and oxidation catalyst, while the turbines are being tuned to achieve optimum performance. During initial source testing, the emission control equipment would already be installed and effective. The purpose of initial source testing is to ensure compliance with the emission limitations specified in the air permits during all operating scenarios.

The impacts during both commissioning and operations were analyzed for the original application for certification and previous amendments. The impacts were compared with National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. The previous analyses concluded that the project would not cause any new violations of NO₂, CO or SO₂ air quality standards but would contribute to existing violations of the state 24-hour and annual PM₁₀ standards, the state annual PM_{2.5} standard, and the state 1-hour and the federal 8-hour ozone standards. Mitigation measures as specified in the permits would mitigate these potential impacts to a level that was determined to be less than significant.

Staff believes the project impacts alone would not cause the violation of the ambient air quality standards.

Comment

An explanation as to why Calpine seeks to substitute a more accurate means of measurement for the ammonia slip for a less accurate means under AQ-19(e)?

Staff Response

Staff is not aware that the proposed changes are a more or less accurate measurement methodology than the existing condition's requirement. The District worked with the project owner to develop a method to properly determine the ammonia slip concentration emission limit of 5 ppmv. The District approved alternative method option was included in the 2007 Amended FDOC but was left out in the 2007 Amended Decision. Staff believes when District approves the alternative method, which is very similar in method to the current condition's requirements, the measured results would be equivalent.

CONCLUSIONS AND RECOMMENDATIONS

The requested changes in the conditions of certification identified below would conform with applicable federal, state, and BAAQMD air quality laws, ordinances, regulations, and standards. The amended project is expected to comply with 40 CFR Part 60 Subpart KKKK and 40 CFR Part 63 Subpart ZZZZ (BAAQMD 2013). The amended

project would not cause significant air quality impacts, provided that the following conditions of certification are included. Staff recommends that the revised conditions of certification be approved as shown below.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Below is a list of those conditions of certification that must be revised from those in effect as of the 2007 Amended Decision (CEC 2007b) and 2010 Amended Decision (CEC 2010d). These changes make the conditions of certification consistent with current BAAQMD permit requirements. ~~Strikethrough~~ is used to indicate deleted language and **underline and bold** is used for new language.

Summary of revised conditions of certification:

- Delete **AQ-SC12** and replace with “[Reserved]”.
- Revise **AQ-SC13** to specify the required quantity of of PM10 ERCs.
- Delete “at least 60 days” in the verification of **AQ-SC13**.
- Gas Turbine Shutdown Mode definition: correct “and” to “through” between **AQ-19(b)** and **AQ-19(d)**.
- Combustor Tuning Mode definition: delete last sentence, “The SCR and oxidation catalyst are not operating during the tuning operation.”
- Change “project owner” to “owner/operator” in **AQ-10**, **AQ-19**, **AQ-20**, **AQ-22**, **AQ-23**, **AQ-26**, and **AQ-44**.
- Extend the timing for conducting initial source testing from “90” days (or “60” days in **AQ-45**) to “120” days after startup in **AQ-11**, **AQ-29**, **AQ-30**, **AQ-32**, **AQ-34**, and **AQ-45**.
- Change the date that the initial source test reports are required to be submitted to be within “150 days of the initial startup” in **AQ-11**, **AQ-29**, **AQ-30**, **AQ-31**, verifications of **AQ-32** and **AQ-33**, and **AQ-34**.
- Delete “using certified continuous emissions monitors” in the first sentence of **AQ-11**.
- Add “rolling 12-month annual” in the fourth sentence of **AQ-12**.
- Add “averaged over any 1-hour period” after the NO_x lb/MMBtu emission limits in the first and second sentences of **AQ-19(a)**.

- Replace “30” with “**AQ-29**” at the end of **AQ-19(e)**.
- Add “or District approved alternative method” at the end of **AQ-19(e)**.
- Add “or shutdown” after “startup” in the first sentence of **AQ-20**.
- Delete “and the auxiliary boiler” at the end of **AQ-26(j)**.
- Replace “thru” in three places in **AQ-27** with the specific conditions that “thru” stands for, ~~and~~ replace **AQ-22(c)** with **AQ-22(d)**, and add AQ-22(f).
- Replace “eight” with “four” in **AQ-27(b)**.
- Add “For the purposes of the testing at maximum load only” at the beginning of the second sentence of **AQ-30**.
- Replace “**AQ-30**” with “**AQ-34**” in the first sentence of **AQ-33**.
- Replace “semi-annual” with “annual” and delete “(twice per year)” in the first sentence of **AQ-34** and delete the third sentence, “After acquiring one year of source test data on these sources, the owner/operator may petition the District to reduce the test frequency to an annual basis if test result variability is sufficiently low as determined by the District.”, in **AQ-34**.
- Delete “S-5, or S-7”, “S-6 or S-8”, and add “or” after “S-1” and after “S-2” in the last sentence of **AQ-42**.

CONDITIONS OF CERTIFICATION

AQ-SC12 [Reserved]

~~A fireplace retrofit/woodstove replacement program shall be made available to all Hayward residents on a first-come, first-serve basis to finance a voluntary woodstove replacement/fireplace retrofit. The program can also made available to all residents of the cities of Fremont, Newark, Union City, San Leandro, Oakland, Emeryville, Albany, Piedmont, Berkeley, Alameda and the unincorporated communities of San Lorenzo and Castro Valley after twelve (12) months from the start date of the fireplace retrofit/woodstove replacement program. The program shall provide a minimum of 43.4 tons of winter-time (Oct 1 to Mar 31) PM10 ERCs per year. Each resident participating in the retrofit/replacement program would agree to replace their existing woodstove or fireplace with a natural gasfired unit, or to permanently close the fireplace or woodstove chimney and apply the rebate toward the improvement or replacement of their homes' existing central heating and air conditioning unit. Quarterly status reports on the program meeting the following milestones shall be submitted to the CPM:~~

- ~~a. achieving 6.5 tons per year of winter-time PM10 six (6) months after start of construction,~~
- ~~b. achieving 13.0 tons per year of winter-time PM10 nine (9) months after start of construction.~~
- ~~c. achieving 21.7 tons per year of winter-time PM10 twelve (12) months after start of construction.~~
- ~~d. achieving 34.7 tons per year of winter-time PM10 eighteen (18) months after start of construction.~~
- ~~e. achieving 43.4 tons per year of winter-time PM10 twenty four (24) months after start of construction.~~

Verification: ~~At least ninety (90) days before start of construction, the project owner shall submit to the CPM a plan detailing the fireplace/woodstove replacement program for approval. The plan shall include, at the minimum, the description of the program, the amount of rebate, the person (or agency) who oversees the program implementation, the responsible person who reports to the CPM on the progress of the program implementation, the target milestones, and procedures to be followed if the target milestones have not been met. The project owner shall submit documentation to show compliance with this condition in the quarterly and annual reports as required in AQ-20.~~

AQ-SC13 ~~If complete compliance with AQ-SC12 cannot be achieved by the condition milestones, t~~The project owner shall **provide 71.8 TPY of PM10 ERCs required, either as PM10 or SOx ERCs.** ~~make up the wintertime PM10 milestone shortfall by providing annual PM10 or PM10 equivalent (SOx for PM10) ERCs at a ratio of 2 tons of annual PM10 or PM10 equivalent ERCs to 1 ton of wintertime PM10. PM10 equivalent ERCs can be provided by SOx for PM10 interpollutant trading at a ratio of 5.3 to 1.~~

Verification: The project owner shall submit to the CPM a list of PM10 and/or SOx ERCs to be surrendered to the District ~~at least 60 days~~ prior to initial startup.

AIR DISTRICT CONDITIONS OF CERTIFICATION

Definitions:

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time.
Heat Input:	Heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in BTU/scf.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in minutes.
MM BTU:	Million British thermal units.

Gas Turbine Warm and Hot

Start-up Mode: The lesser of the first 180 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification **AQ-19(b)** and **AQ-19(d)**.

Gas Turbine Cold

Start-up Mode: The lesser of the first 360 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification **AQ-19(b)** and **AQ-19(d)**.

Gas Turbine Shutdown

Mode: The lesser of the 30 minute period immediately prior to the termination of fuel flow to the gas turbine or the period of time from non-compliance with any requirement listed in Conditions of Certification **AQ-19(b)** and through **AQ-19(d)** until termination of fuel flow to the gas turbine.

Gas Turbine Combustor

Tuning Mode: The period of time, not to exceed 360 minutes, in which testing, adjustment, tuning, and calibration operations are performed, as recommended by the gas turbine manufacturer, to insure safe and reliable steady-state operation, and to minimize NO_x and CO emissions. ~~The SCR and oxidation catalyst are not operating during the tuning operation.~~

Gas Turbine Cold Start-up: A gas turbine start-up that occurs more than 48 hours after a gas turbine shutdown.

Gas Turbine Hot Start-up: A gas turbine start-up that occurs within 8 hours of a gas turbine shutdown.

Gas Turbine Warm Start-up: A gas turbine start-up that occurs between 8 hours and 48 hours of a gas turbine shutdown.

Specified PAHs: The polycyclic aromatic hydrocarbons listed below shall be considered to be Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds:

Benzo[a]anthracene

Benzo[b]fluoranthene

Benzo[k]fluoranthene

Benzo[a]pyrene

Dibenzo[a,h]anthracene

Indeno[1,2,3-cd]pyrene

Corrected Concentration:	The concentration of any pollutant (generally NO _x , CO, or NH ₃) corrected to a standard stack gas oxygen concentration. For emission points P-1 (combined exhaust of S-1 gas turbine and S-3 HRSG duct burners), P-2 (combined exhaust of S-2 gas turbine and S-4 HRSG duct burners), the standard stack gas oxygen concentration is 15% O ₂ by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the RCEC construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems during the commissioning period.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
CPM:	California Energy Commission Compliance Program Manager
RCEC:	Russell City Energy Center

CONDITIONS FOR COMMISSIONING PERIOD

AQ-10 The ~~project owner~~operator shall not operate the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) in a manner such that the combined pollutant emissions from these sources will exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the gas turbines (S-1 & S-3).

NO _x (as NO ₂)	4,805 pounds per calendar day	400 pounds per hour
CO	20,000 pounds per calendar day	5,000 pounds per hour
POC (as CH ₄)	495 pounds per calendar day	
PM ₁₀	413 pounds per calendar day	
SO ₂	298 pounds per calendar day	

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with.

AQ-11 No less than ~~120~~⁹⁰ days after startup, the owner/operator shall conduct District and Energy Commission approved source tests ~~using certified continuous emissions monitors~~ to determine compliance with the emission limitations specified in **AQ-19**. The source tests shall determine NO_x, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods and shall include at least one cold start, one warm start, and one hot start. Twenty (20) working days before the execution of the source tests, the owner/operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. The District and the CPM will notify the owner/operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall incorporate the District and CPM comments into the test plan. The owner/operator shall notify the District and the CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CPM within **150 days of the initial startup**~~60 days of the source testing date~~.

Verification: No later than 30 working days before the commencement of the source tests, the project owner shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. The District and the CPM will notify the project owner of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The project owner shall incorporate the District and CPM comments into the test plan. The project owner shall notify the District and the CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within **150 days of the initial startup**~~60 days of the source testing date~~.

CONDITIONS FOR THE GAS TURBINES (S-1 & S-3) AND THE HRSGS (S-2 & S-4)

AQ-12 The owner/operator shall fire the gas turbines (S-1 & S-3) and HRSG Duct Burners (S-2 & S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-1 through S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the RCEC. In the event that the **rolling 12-month annual** average sulfur content exceeds 0.25 grain per 100 standard cubic feet, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions. The reduced annual heat

input rate shall be subject to District review and approval. (BACT for SO₂ and PM₁₀)

Verification: The project owner shall complete, on a monthly basis, a laboratory analysis showing the sulfur content of natural gas being burned at the facility. The sulfur analysis reports shall be incorporated into the quarterly compliance reports.

AQ-19 The ~~project owner~~**/operator** shall ensure that the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements **(a) through (h)** under all operating scenarios, including duct burner firing mode. Requirements **(a) through (h)** do not apply during a gas turbine start-up, combustor tuning operation or shutdown. (BACT, PSD, and Regulation 2, Rule 5)

- (a) Nitrogen oxide mass emissions (calculated as NO₂) at P-1 (the combined exhaust point for S-1 gas turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired, **averaged over any 1-hour period**. Nitrogen oxide mass emissions (calculated as NO₂) at P-2 (the combined exhaust point for S-3 gas turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired, **averaged over any 1-hour period**.
- (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any 1-hour period. (BACT for NO_x)
- (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 10 pounds per hour or 0.0045 lb/MM BTU of natural gas fired, averaged over any 1-hour period. (PSD for CO)
- (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any 1-hour period. (BACT for CO)
- (e) Ammonia (NH₃) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with permit condition **AQ-2930 or District approved alternative method**. (Regulation 2-5)
- (f) Precursor organic compound (POC) mass emissions (as CH₄) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT)
- (g) Sulfur dioxide (SO₂) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT)

- (h) Particulate matter (PM10) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM10 per MM BTU of natural gas fired. (BACT)

Verification: The project owner shall submit to the District and CPM, quarterly reports for the proceeding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year. The quarterly and annual compliance summary reports shall contain the following information:

- (a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
- (b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.
- (c) Date and time of the beginning and end of each startup and shutdown period.
- (d) Average plant operation schedule (hours per day, days per week, weeks per year).
- (e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.
- (f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM10, POC and SO_x (including calculation protocol).
- (g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District.
- (h) A log of all excess emissions, including the information regarding malfunctions/breakdowns.
- (i) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.
- (j) Any maintenance to any air pollutant control system (recorded on an as performed basis).

In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

AQ-20 The ~~project~~ owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the gas turbines (S-1 & S-3) during a startup or shutdown does not exceed the limits established below. The ~~project~~ owner/operator shall not operate both of the Gas Turbines (S1 & S3) in Startup Mode at the same time. (PSD, CEC Conditions of Certification)

Pollutant	Cold Start-Up/ Combustor Tuning	Hot Start-Up	Warm Start-Up	Shutdown
	lb/start-up	lb/start-up	lb/start-up	lb/shutdown
NO _x (as NO ₂)	480.0	95	125	40
CO	2514	891	2514	100
POC (as CH ₄)	83	35.3	79	16

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-22 The ~~project owner~~/**operator** shall not allow total combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any calendar day:

- (a) 1,453 pounds of NO_x (as NO₂) per day (Cumulative Emissions)
- (b) 1,225 pounds of NO_x per day during ozone season from June 1 to September 30. (CEC Condition of Certification)
- (c) 7,360 pounds of CO per day (PSD)
- (d) 295 pounds of POC (as CH₄) per day (Cumulative Emissions)
- (e) 413 pounds of PM10 per day (PSD)
- (f) 292 pounds of SO₂ per day (BACT)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-23 The ~~project owner~~/**operator** shall not allow cumulative combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any consecutive twelve-month period:

- (a) 127 tons of NO_x (as NO₂) per year (Offsets, PSD)
- (b) 330 tons of CO per year (Cumulative Increase, PSD)
- (c) 28.5 tons of POC (as CH₄) per year (Offsets)
- (d) 71.8 tons of PM10 per year (Cumulative Increase, PSD)
- (e) 12.2 tons of SO₂ per year (Cumulative Increase, PSD)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-26 The ~~project owner~~**/operator** shall demonstrate compliance with **AQ-13 through AQ-16, AQ-19(a) through (d), AQ-20, AQ-22(a) and (b), AQ-23(a) and (b)** by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shutdown periods) for all of the following parameters:

- (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (b) Oxygen (O₂) concentration, Nitrogen Oxides (NO_x) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2.
- (c) Ammonia injection rate at A-1 and A-3 SCR Systems

The ~~project owner~~**/operator** shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the ~~project owner~~**/operator** shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

The ~~project owner~~**/operator** shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

- (d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (e) Corrected NO_x concentration, NO_x mass emission rate (as NO₂), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

For each source, source grouping, or exhaust point, the ~~project owner~~**/operator** shall record the parameters specified in **AQ-26(d) and (e)** at least once every 15 minutes (excluding normal calibration periods). As specified below, the ~~project owner~~**/operator** shall calculate and record the following data:

- (f) total heat input rate for every clock hour.
- (g) on an hourly basis, the cumulative total heat input rate for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.
- (h) the average NO_x mass emission rate (as NO₂), CO mass emission rate, and corrected NO_x and CO emission concentrations for every clock hour..
- (i) on an hourly basis, the cumulative total NO_x mass emissions (as NO₂) and the cumulative total CO mass emissions, for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

- (j) For each calendar day, the average hourly heat input rates, corrected NO_x emission concentration, NO_x mass emission rate (as NO₂), corrected CO emission concentration, and CO mass emission rate for each gas turbine and associated HRSG combined ~~and the auxiliary boiler~~.
 - (k) on a daily basis, the cumulative total NO_x mass emissions (as NO₂) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-1, S-2, S-3 and S-4) combined.
- (1-520.1, 9-9-501, BACT, Offsets, NSPS, Cumulative Increase)

Verification: At least 30 days before first fire, the project owner shall submit to the CPM a plan on how the measurements and recordings required by this condition will be performed.

AQ-27 To demonstrate compliance with conditions **AQ-19(f), AQ-19(g), thru AQ-19(h), AQ-22(d), thru AQ-22(e), AQ-22(f)**, and **AQ-23(c), AQ-23(d), thru AQ-23(e)**, the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM₁₀) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO₂) mass emissions from each power train. The owner/operator shall use the actual heat input rates measured pursuant to **AQ-26**, actual gas turbine start-up times, actual gas turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under **AQ-30** to calculate these emissions. The owner/operator shall present the calculated emissions in the following format:

- (a) For each calendar day, POC, PM₁₀, and SO₂ emissions, summarized for each power train (gas turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3 & S-4) combined
 - (b) on a daily basis, the cumulative total POC, PM₁₀, and SO₂ mass emissions, for each year for all **four** ~~eight~~ sources (S-1, S-2, S-3 & S-4) combined
- (Offsets, PSD, Cumulative Increase)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-29 Within ~~120~~**90** days of start-up of the RCEC, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to determine the corrected ammonia (NH₃) emission concentration to determine compliance with **AQ-19(e)**. The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH₃ emission concentration at emission point P-1 or P-2. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. The

owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with **AQ-19(e)** shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. The owner/operator shall submit the source test results to the District and the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter**, within 60 days of conducting the tests. (Regulation 2, Rule 5)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter**, within 60 days of the date of the tests.

AQ-30 Within ~~120~~90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and associated Heat Recovery Steam Generator are operating at maximum load to determine compliance with **AQ-19(a), (b), (c), (d), (f), (g), and (h)** and while each gas turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with **AQ-19(c) and (d)**, and to verify the accuracy of the continuous emission monitors required in **AQ-26**. **For the purposes of the testing at maximum load only, t**The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO₂), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM₁₀) emissions including condensable particulate matter. The owner/operator shall submit the source test results to the District and the CEC CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter**, within 60 days of conducting the tests. (BACT, offsets)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter**, within 60 days of the date of the tests.

AQ-31 The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the owner/operator

shall measure the contribution of condensable PM (back half) to the total PM10 emissions. However, the owner/operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. The owner/operator shall submit the source test results to the District and the CPM, in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter, within 60 days of conducting the tests. (BACT)

Verification: Approval of the source test procedures, as required in **AQ-31**, and the source test reports shall be deemed as verification for this condition. The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter, within 60 days of the date of the tests.

AQ-32 Within ~~120~~90 days of start-up of the RCEC and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the gas turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with **AQ-25**. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to **AQ-25** for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant:

Benzene	≤	6.4 pounds/year and 2.9 pounds/hour
Formaldehyde	≤	30 pounds/year and 0.21 pounds/hour
Specified PAHs	≤	0.011 pounds/year

(Regulation 2, Rule 5)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter, within 60 days of the date of the tests.

AQ-33 The owner/operator shall calculate the SAM emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to **AQ-34**~~30~~. If this SAM mass emission limit of **AQ-24** is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in µg/m³) of the sulfuric acid mist emissions pursuant to Regulation 2-2-306. (PSD)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter,** within 60 days of the date of the tests.

AQ-34 Within ~~120~~90 days of start-up of the RCEC and on a semi-annual basis (~~twice per year~~) thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and HRSG duct burner is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in **AQ-24**. The owner/operator shall test for (as a minimum) SO₂, SO₃, and H₂SO₄. ~~After acquiring one year of source test data on these sources, the owner/operator may petition the District to reduce the test frequency to an annual basis if test result variability is sufficiently low as determined by the District.~~ The owner/operator shall submit the source test results to the District and the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter,** within 60 days of conducting the tests. (PSD)

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM, **in the case of initial source testing, within 150 days of startup, and for all source testing conducted thereafter,** within 60 days of the date of the tests.

AQ-42 Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Russell City Energy Center shall submit an application for a Title IV operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, or S-3, ~~S-5, or S-7~~) or HRSGs (S-2, or S-4, ~~S-6, or S-8~~). (Regulation 2, Rule 7)

Verification: The project owner shall submit to the CPM copies of the Federal (Title IV) Acid Rain and (Title V) Operating Permit within 30 days after they are issued by the District.

PERMIT CONDITIONS FOR COOLING TOWERS

AQ-44 The ~~project owner~~**operator** shall properly install and maintain the S-5 cooling tower to minimize drift losses. The ~~project owner~~**operator** shall equip the cooling towers with high-efficiency mist eliminators with a maximum guaranteed drift rate of 0.0005 percent. The maximum total dissolved solids (TDS) measured at the base of the cooling towers or at the point of return to the wastewater facility shall not be higher than 6,200 ppmw (mg/l). The ~~project owner~~**operator** shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. (PSD)

Verification: At least 120 days prior to construction of the cooling tower, the project owner shall provide the District and CPM an “approved for construction” drawing and specifications for the cooling tower and the high-efficiency mist eliminator.

AQ-45 The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to the initial operation of the Russell City Energy Center, the owner/operator shall have the cooling tower vendor’s field representative inspect the cooling tower drift eliminators and certify that the installation was performed in a satisfactory manner. Within ~~120~~60 days of the initial operation of the cooling tower, the owner/operator shall perform an initial performance source test to determine the PM10 emission rate from the cooling tower to verify compliance with the vendor-guaranteed drift rate specified in **AQ-44**. The CPM may require the owner/operator to perform source tests to verify continued compliance with the vendor-guaranteed drift rate specified in **AQ-44**. (PSD)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

REFERENCES

ARB 2011, California Air Resources Board, Air Designation Maps available on ARB website. <http://www.arb.ca.gov/design/adm/adm.htm>. Accessed 2013.

BAAQMD 2007, Bay Area Air Quality Management District, Russell City Energy Center, Amended Final Determination of Compliance, June 19, 2007.

BAAQMD 2010, Bay Area Air Quality Management District, Prevention of Significant Deterioration Permit, Russell City Energy Center, Permit Application No. 15487, February 3, 2010.

BAAQMD 2013, Bay Area Air Quality Management District, Russell City Energy Center, Analysis of Requested Change of Conditions, draft document March 25, 2013.

CEC 2002a, California Energy Commission, Russell City Energy Center (01-AFC-7), Final Staff Assessment, June 2002.

CEC 2002b, California Energy Commission, Russell City Energy Center (01-AFC-7), Commission Decision, July 2002.

CEC 2007a, California Energy Commission, Russell City Energy Center (01-AFC-7C), Amendment No. 1, Staff Assessment – Part 1 and Part 2 Combined, June 2007.

CEC 2007b, California Energy Commission, Russell City Energy Center (01-AFC-7C), Amendment No. 1, Final Commission Decision, October 2007.

CEC 2010a, California Energy Commission, Russell City Energy Center (01-AFC-7C), Staff Analysis of Proposed Project Modifications, June 28, 2010.

CEC 2010b, California Energy Commission, Russell City Energy Center (01-AFC-7C), Supplemental Staff Analysis of Proposed Project Modifications, July 9, 2010.

CEC 2010c, California Energy Commission, Russell City Energy Center (01-AFC-7C), email from Mary Dyas (Energy Commission CPM) to RCEC: RCEC AQ-SC13, in lieu of complying with AQ-SC12 – Approved, July 12, 2010.

CEC 2010d, California Energy Commission, Russell City Energy Center (01-AFC-7C), Order Amending the Energy Commission Decision, August 11, 2010.

RCEC 2010a, Russell City Energy Company, LLC, Russell City Energy Center (01-AFC-7C), letter to Mary Dyas (Energy Commission CPM) stating Russell City Energy Center's intention to comply with AQ-SC13, in lieu of AQ-SC12, May 14, 2010.

RCEC 2010b, Russell City Energy Company, LLC, Russell City Energy Center (01-AFC-7C), letter to Mary Dyas (Energy Commission CPM) – Condition of Certification AQ-SC13 – Surrender of PM10 ERCs, July 15, 2010.

RCEC 2012, Russell City Energy Company, LLC, Russell City Energy Center (01-AFC-7C), Amendment No. 4, November 2012.

RCEC 2013, Russell City Energy Company, LLC, Russell City Energy Center (01-AFC-7C), Addendum to Amendment No. 4, March 20, 2013.

U.S. EPA 2012, U.S. Environmental Protection Agency, The Green Book
Nonattainment Areas for Criteria Pollutants.
<http://www.epa.gov/oar/oaqps/greenbk/index.html>. Accessed 2013.

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

California Energy Commission

**DOCKETED
01-AFC-7C**

TN # 70432

April 23 2013



NOTICE OF RECEIPT
PETITION TO AMEND
THE ENERGY COMMISSION DECISION for the
RUSSELL CITY ENERGY CENTER PROJECT (01-AFC-7C)

On November 8, 2012, the Russell City Energy Company, LLC, owner of the Russell City Energy Center filed a petition with the California Energy Commission (Energy Commission) requesting to modify provisions in the Russell City Energy Center Final Decision. The approximately 600 megawatt project was certified by the Energy Commission in September 2002, is currently under construction, and is 46 percent complete. The facility is located in the City of Hayward, in Alameda County.

DESCRIPTION OF PROPOSED MODIFICATION

The modifications proposed in the petition would amend certain Air Quality Conditions of Certification to make select non-substantive clarifications; modify Condition of Certification VIS-2 to allow onsite landscape planting in the first optimal planting season following commercial operation; delete Condition of Certification VIS-9 (trailside improvements) because the condition is not feasible and is no longer necessary; and modify Condition of Certification VIS-10 to provide alternative offsite visual enhancement measures.

ENERGY COMMISSION AMENDMENT REVIEW PROCEDURES

The purpose of the Energy Commission's review process is to assess the impacts of this proposal on environmental quality, public health and safety. The review process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Decision and, if the project, as modified, will remain in compliance with applicable laws, ordinances, regulations, and standards (Title 20, Calif. Code of Regulations, section 1769). Energy Commission staff is currently analyzing the request and will publish an analysis in the near future. A public hearing for the purpose of approving or denying the amendment proposal will be held at a regularly scheduled Energy Commission business meeting.

This Notice of Receipt is being mailed to interested parties and property owners adjacent to the project site who may want to participate in the amendment process.

The petition is available on the Energy Commission's website at:

http://www.energy.ca.gov/sitingcases/russellcity_amendment/amendment_four/index.html

The staff analysis, when published, will also be posted on the website. If you would like to receive a hard copy of the petition and/or staff's analysis, please complete the enclosed Information Request Form and return it to the address shown.

If you have any comments or questions, please contact Bruce Boyer, Compliance Project Manager, at (916) 653-7181, or by fax to (916) 654-3882, or via e-mail at: bruce.boyer@energy.ca.gov

Any person may file written comments on the Petition to Amend. All comments must be in writing and must be sent to the Energy Commission Dockets Unit. Please include the docket number (01-AFC-7C) in the subject line or first paragraph of your comments. Those submitting comments electronically should provide them in either Microsoft Word format or as a Portable Document Format (PDF) to docket@energy.ca.gov. Please include your name or organization's name in the file name. Those preparing non-electronic written comments should mail or hand deliver them to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-7C
1516 Ninth Street
Sacramento, CA 95814-5512

For further information on how to participate in this proceeding, please contact the Energy Commission Public Adviser's Office, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.ca.gov.

Date: _____

CHRISTOPHER J. MARXEN, Manager
Compliance Office
Siting, Transmission & Environmental Protection
Division

Enclosure: Information Request Form

Mail List # 7078

INFORMATION REQUEST FORM

COMPLETE & MAIL TO: CALIFORNIA ENERGY COMMISSION
COMPLIANCE UNIT
ATTN: Bruce Boyer
1516 NINTH STREET, MS-2000
SACRAMENTO, CA 95814

OR FAX TO: (916) 654-3882

NAME AND/OR TITLE (AS IT IS TO APPEAR ON MAIL LABEL)

ORGANIZATION (IF APPLICABLE)

STREET ADDRESS OR P.O. BOX

CITY

STATE

ZIP CODE

PROPOSED AMENDMENT TO THE COMMISSION DECISION TO: AMEND CERTAIN AIR QUALITY AND VISUAL CONDITIONS

PLEASE CHECK THE DOCUMENTS YOU WOULD LIKE TO RECEIVE:

- ☐ PETITION TO AMEND ☐ on CD (if available)
☐ STAFF ANALYSIS ☐ on CD (if available)

PROJECT: RUSSELL CITY ENERGY CENTER

DOCKET NO: 01-AFC-7C

MAIL LIST NO: 7078

☐ **PLEASE REMOVE MY NAME FROM THE (NAME OF PROJECT) PROJECT MAILING LIST**